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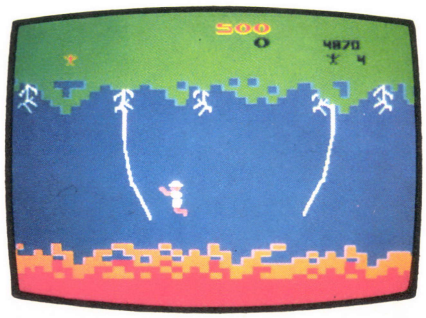
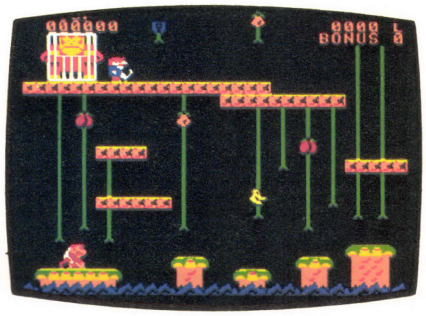
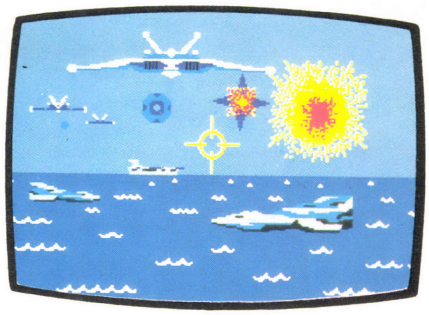
COVER PHOTO: ROSS M. HOROWITZ

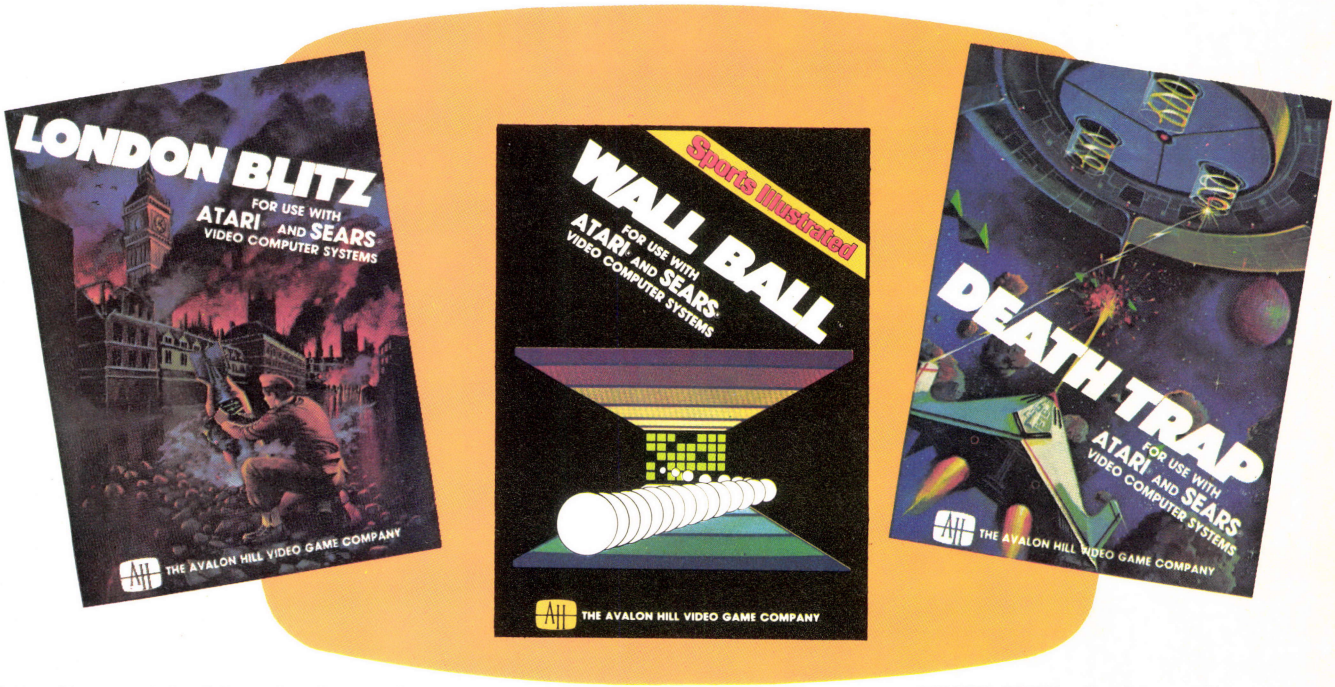






"AH!"

Finally, Video Games that really defy boredom!



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Videogaming & Computergaming Illustrated No. 9 September is published monthly by Ion International Inc., 45 W. 34th St., Room 407, New York, NY, 10001. Subscription rate: 12 issues for $28.00 and 24 issues for $52.00. Canada $32.00 and $60.00 respectively. Second-class postage at New York, NY, additional entry at Sparta, Illinois. **© 1983 by Ion International Inc. All rights reserved. © under Universal International and Pan American Copyright conventions. Reproduction of editorial or pictorial content in any manner is prohibited. No responsibility can be accepted for unsolicited material.** **All editorial & subscription inquiries should be addressed to 45 W. 34th St., Room 407, New York, NY 10001. Agency: Cartoon Factory, Danbury, CT 06810. Advertising Director: Lynne Dominick, 45 W. 34th St., Room 407, New York, NY, (212) 239-0855**

nybbles

Industry Whispers and Meditations by Profundo

(VCI proudly introduces this new column: Nybbles, or half a byte. Each issue, Profundo, who works in the industry (Profundo is a pseudonym), will endeavor to cover the videogame and computer industry from the inside. What is but a whisper today will be hard news tomorrow.

The Odyssey 3 is not going to be called the Odyssey 3. It may not be called the Command Center either. In fact, N.A.P. Electronics is flailing about trying to find a corporate stamp for their new videogames and computer division. If they can't come up with with a simple logo, what can we expect from their products?

Rob Hunter has been replaced by Richard A. Baumbusch as Vice President and General Manager of CBS Electronics. Hunter will return to the CBS Record Division. I have been assured by CBS spokesmen that this is not to be interpreted as a demotion for Hunter; he is a start-up man, they say, and his leaving is all according to plan. For my own peace of mind, I will buy it; Hunter is one of the brightest, most articulate (and youngest) executives in the business. CBS' games, admittedly iffy, are improving. The division is beginning to roll.

Zaxxon—a movie? So far, all we have is rumor to that effect and one Sega employee going to work for Universal Pictures. By the time this is read, perhaps the situation will have clarified.

My favorite Atari 800 game of the month: Prisoner 2, by Interactive Fantasies. A great game (especially for fanatic followers of the old TV series), and more than a little disturbing. Now if only they'd fix those damn bugs . . .

I just spoke with the people at Edu-Ware and was assured that they do know about the bugs in the program. Seems that although they tested the program *before* they put their security in, they didn't play test it *after*wards. Anyway, the fixed version (I'm only talking about the Atari version here—as far as I know the other versions work fine.) should be in the stores by the time you read this. If not, make 'em go out and order it for you. You simply *must* have this game! P.S.: If you get totally stuck, call up the lady at Edu-Ware. She gives hints, but they can be very misleading.

No comment: An Activision spokesman, discussing *Robot Tank,* a blatant (and quite good) rip-off of the arcade game *Battle Zone:* "We don't steal any of our ideas. The game idea *(Robot Tank)* is a generic one in the industry. . . ."

Imagic had to sell off a chunk of their privately held stock a while back in order to raise twelve million dollars and pay off their warehousing costs. Rumor has it that they've got an enormous number of cartridges in a warehouse somewhere. Imagine it: *Fire Fighter* cartridges for as far as the eye can see. . . .

It sounds outrageous, but I've had some off-the-record confirmation: Coleco is deliberately screwing up the VCS versions of the games that you can also buy for their Colecovision system. Case in point: *Donkey Kong Jr.* As you probably know by now, the Colecovision is dynamite. The VCS version, which I had the misfortune of seeing at the spring Consumer Electronics Show, is absolutely swill. To be fair, it might not have been finished, but if it was . . . It appears that Coleco may be doing this to make their system look good, and to make the VCS look bad. That's a pretty bogus marketing strategy, and if true, I hope it backfires on 'em.

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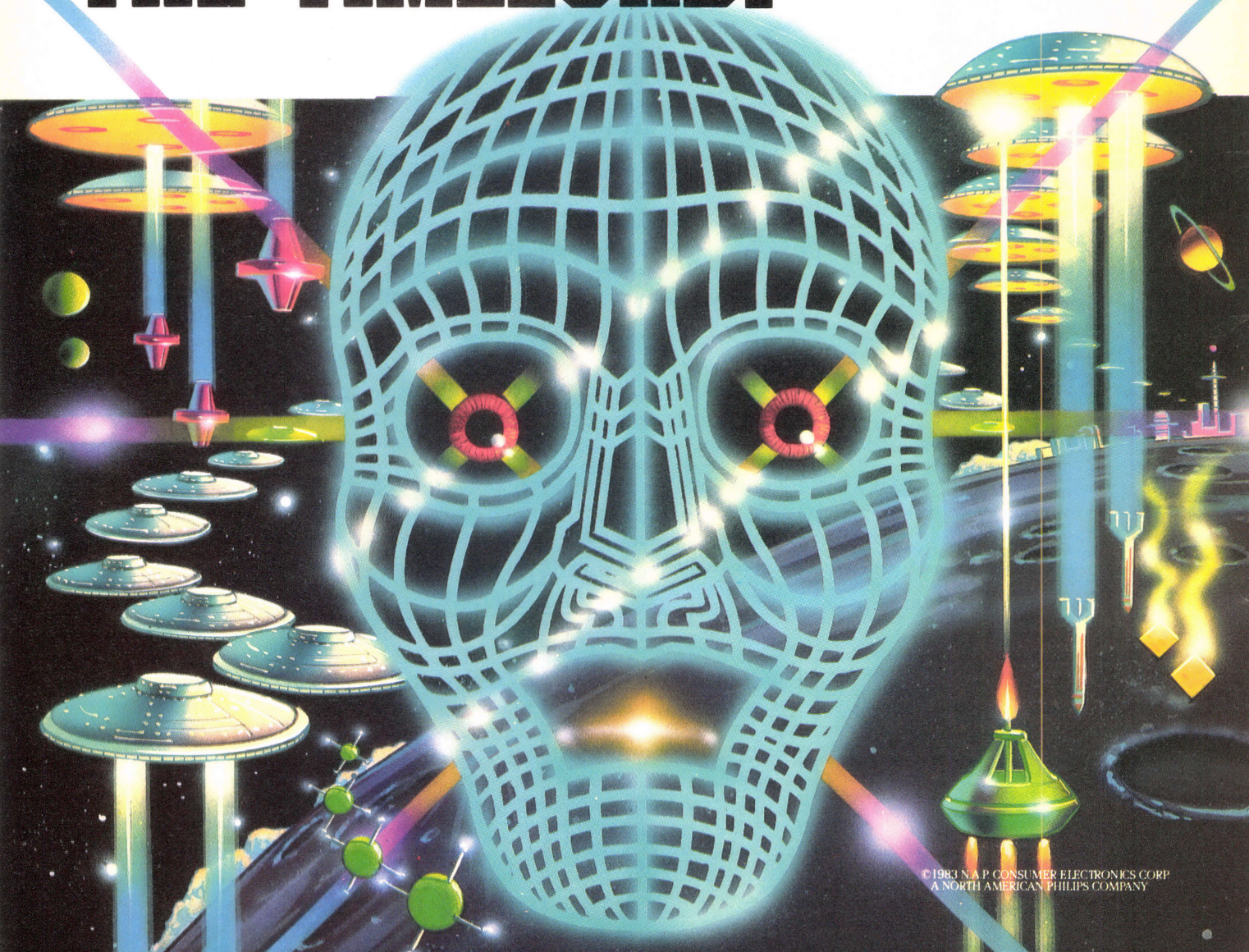

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PROMISES PROMISES

As summer sputters to an unwelcome close, and the clanging of the school bell can distantly be heard, the videogame makers are rolling out their big guns.

Following is a list of games that the software peddlers hope will lure players away from beaches, arcades and movie theaters to the comforts of hearth, home and joysticks.

Atari 2600.

From Parker Brothers, two new games based on George Lucas' *Return of the Jedi: Deathstar Battle* and *Ewok Adventure;* the former is an all-out attack against a nearly-completed space station; the latter is a land-based shoot-out against empirical stormtroopers with cuddly fuzzy wuzzies as the player's allies.

The arcade hits *Q*bert* and *Popeye* are also due soon from Parker Brothers.

From N.A.P., adaptations of their games for Odyssey, *Adventures of the Pink Panther* and *Power Lords.*

From Atari, *Pole Position,* and:

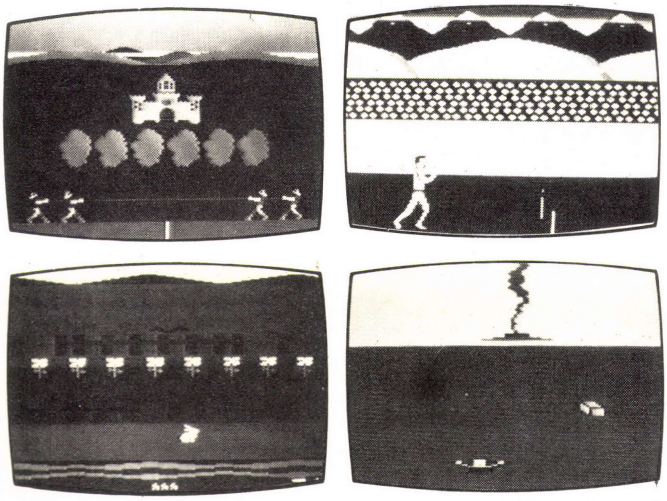
Joust, in October. Mythological variations as knights on flying ostriches battle it out with their weapons of lances and eggs.

Moon Patrol. A driving game set on the moon: leap craters while blasting rocks and attacking aliens.

Battle Zone. First person tank battle game.

Snoopy and the Red Baron. The Peanuts pooch in a dogfight.

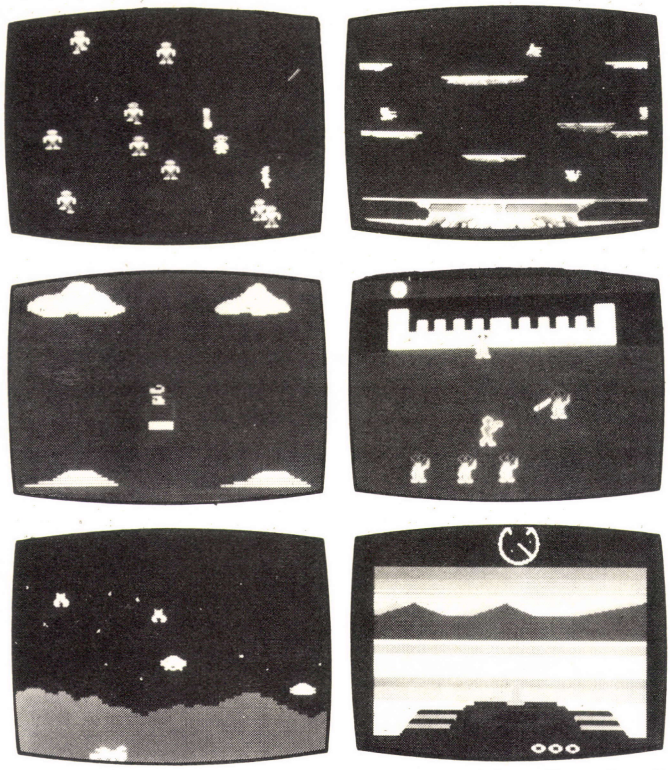
Krull. Three separate action sequences highlight this adaptation of the Peter Yates movie. Fight off slayers, escape the lair of the crystal spider, and battle with the fire-hurling Beast.



Starpath's* Party Mix *(top left),* Sweat, Rabbit Transit, *and* Survival Island *are new games for the Supercharger.

For 2600 owners who also have a Supercharger, Starpath already has, or will have, four new titles in release with a fifth one (*Sword of Saros*) in the works. The titles are:

Rabbit Transit. In the rabbit's search for multiplication (that's what it says in the press release, honest), the player must hop through meadows, jump blocks and so forth through multiple screens.



Robotron *(top left),* Joust, Snoopy, Krull, Moon Patrol *and* Battlezone—*the arcade games seen in arcade form.*

Sweat contains all of the decathalon events, for up to nine players. Party animals, take note of this game and the following one.

Party Mix. With simultaneous team play possible, this one contains five team games for two to four players.

Survival Island. Multi-load adventures include treacherous, shark-filled waters, island survival strategies, and a search for a jungle temple.

Atari 5200

In October, *Joust.* In November, *Moon Patrol* and *Battlezone.* More recent releases should include *Pole Position, Jungle Hunt* and *Ms. Pac-Man.* 'Supersystem' owners also have these to look forward to:

Pengo. Pengo the Penguin fights the dreaded sno-bees while assembling diamond ice blocks.

Xevious. Adapted from the arcade wonder, *Xevious* provides an overhead view of the fantastic Solvalou, which the player pilots over ground installations and through swarms of airborn enemies, blasting all the way.

Robotron is now scheduled for December, but a prior release of *Tempest, Road Runner,* and *Sports Goofy* is expected.

Additionally, a *RealSports Baseball* game and a new version of *Berzerk* will be released for the 5200 with self contained voice synthesis, no additional hardware required. Now you can hear the ump call you out and *hear* the robots taunt and insult you while you try to obliterate them. Questionable pleasures.

ColecoVision

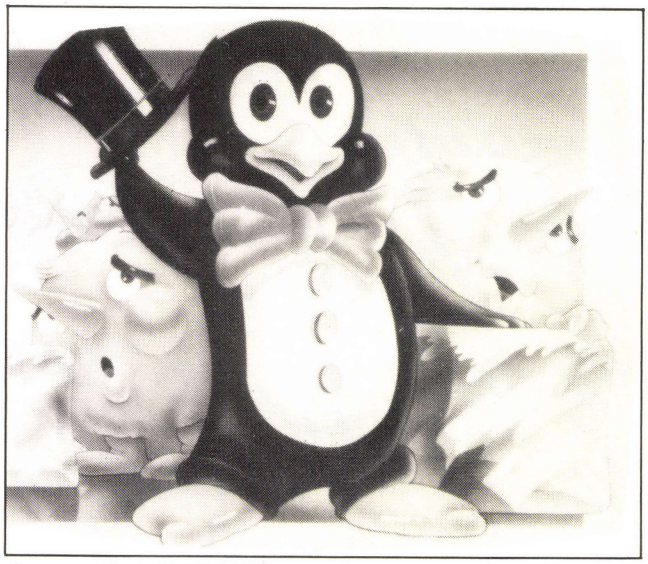
See this issue's Chip Ahoy pages for glimpses of the games slated for ColecoVision in October: *Buck Rogers Planet of Zoom, Subroc* (promises promises), *Frenzy, Omega Race, Tarzan,* and *Front Line.* See also our Input column.

The Starpath Corporation will be adapting a number of their supercharger games to the ColecoVision system. These include *Phaser Patrol* (jump from scanner screen to battle screen in your slugfest with the Dracon Armada), *Dragonstomper* (real *Dungeons & Dragons* questing action), and *Escape from the Mindmaster* (as a toy for the mindmaster's amusement, scoot through a first-person maze).

From N.A.P., three titles: *SWAT Team 2000.* The player hovers over a city (in a *Blue Thunder*-like chopper?), selects a building, and suddenly is transported inside the building with aliens swarming over him/her.

Caverns and Creatures. A *D&D* questing game that can be saved and continued at another time. Players select and name their own characters, then build up strength, dexterity, wisdom and intelligence characteristics while guiding the characters through a ten level, 256 room labyrinth chock-ful of monsters and treasure.

Air Defense. Doomsday comes to videogaming. Protect this great country of ours from air attack, and then repair any damage you might sustain with food and the raw materials needed to rebuild.



A promotional still for **Pengo**, *the new game from Atari that represents an all-new peak in cute for that company.*

Odyssey

New titles, tentatively scheduled for October, include:

The Adventures of the Pink Panther. The jocose jungle cat is trying to steal the famous Pink Panther diamond while avoiding the bumbling clutches of Inspector Clouseau.

Power Lords. The first in a series of sword and sorcery adventures. Adam, leader of the Power Lords, and Shaya, Queen of Power, battle a space serpent with lasers. In the second screen, the digital duo search twisting chambers for the glowing touchstone which will seal their victory.

THAT NUMBER AGAIN

Despite industry shakeouts, it is obvious that companies are forging ahead and churning out games. Despite industry shakeouts, a new company is jumping boldly into the fray: Xonox, a subsidiary of K-Tel (call now!).

Xonox is betting all its chips on a unique format: double-ender games for the **Atari 2600.** These are single cartridges, selling at competitive prices, which contain two independently programmed 8K games each. All games have multiple screens.

The first double ender will contain *Spike's Peak* (adventures in the wildnerness) and *Ghost Manor.* (Your friend is trapped inside the haunted mansion. You must find tools and weapons with which you can rescue your friend. Players can choose the gender of their hero(ine). One screen is cloaked in near-total darkness, lit only by lightning flashes.)

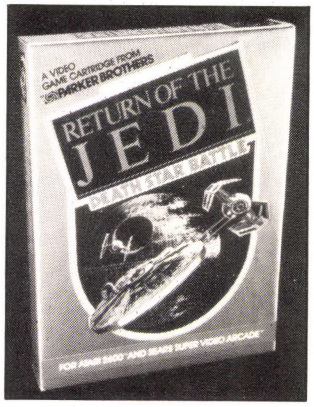
The second double ender release contains *Hercules Vs. The Titans* (one of the screens scrolls; as Hercules, the player must thwart an attack on Mt. Olympus.) and *Chuck Norris Superkicks* (developed in association with Norriss, you battle ninja with a variety of slick moves).

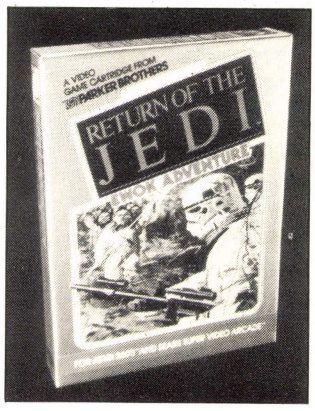
The third dual cartridge contains *Sir Lancelot* (a quest for a magic sword, flying astride winged steeds) and *Robin Hood* (rescue Maid Marian from the Sheriff's castle).

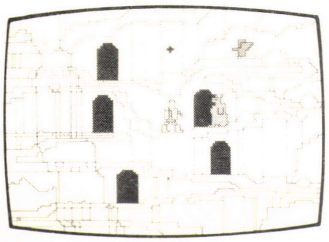
A fourth, single game announced by Xonox is *Thundarr the Barbarian,* for the 2600 and **ColecoVision.** Thundarr features Invisible Screen Action, meaning that while the player plays one screen, events that affect him/her are taking place on another screen, a screen that the player can alternately control. Thundarr, trying to rescue Princess Ariel, fights mutants, bird people and bats.

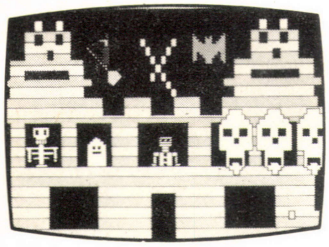
One scenario that Xonox might consider for a game: a new, small company strives to make the big money while fighting off the forces of stiff competition, harried distributors and a sluggish, but recovering, economy.

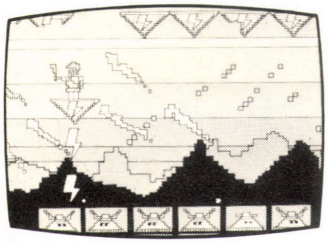
We hope that it's a game Xonox can win.

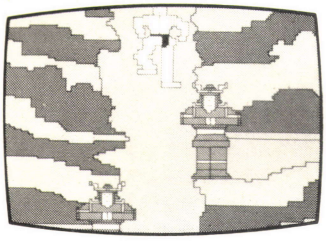


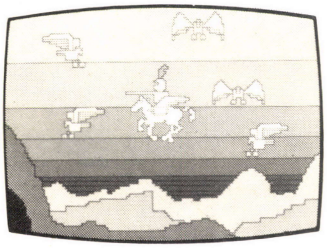


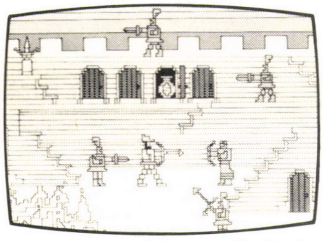






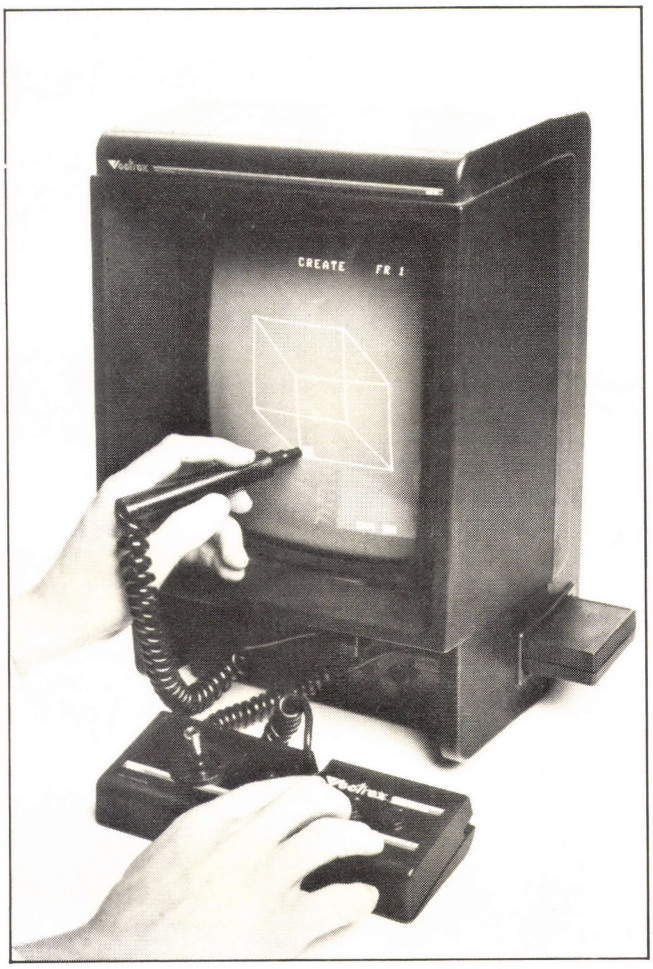






From top to bottom: **Spike's Peak, Ghost Manor, Hercules vs. The Titans, Chuck Norriss Superkicks, Sir Lancelot,** ***and*** **Robin Hood.** ***No one can accuse Xonox of oversimplifying their graphics.***

Those who have given the 3D Imager a test run say that the addition of color is even more impressive than the 3D



True interaction comes to the vector graphics Vectrex system with the introduction of a light pen.

RESCUE ME

As the game descriptions of Xonox and others will attest, questing and rescue are very big on the game front this year. Now, the people at **Vectrex** are jumping on the nonviolence and heroism bandwagon; of their five new titles, three fit into that category. The new games include:

Star Castle. A search for a fortress takes the player across the cosmos into a galaxy of gold . . . and into the fire of an energy cannon.

Dark Tower, Volume One. Based on the Milton Bradley game. The player controls a regiment of warriors hacking through a magic forest in search of the keys that will unlock the tower.

Polar Rescue. Pilot your submarine through mine fields and around devils of the deep to rescue survivors of a failed expedition north.

Pole Position. An adaptation of the arcade hit. Vectrex already boasts one of the fastest and most hair-raising driving games anywhere in *Hyperchase. Pole Position* will have to be extraordinary to best it.

Batter Up Action Baseball. Take me out to the living room.

Vectrex is also enhancing its system with two new peripherals.

Their Light Pen, when used with compatible cartridges, will allow for some remarkable special effects. Cartridges designed to collaborate with the light pen will include *Art Master, Melody Master, Mail Plane* (geography) and *Animaction.*

Special cartridges will also be required for the 3D Imager, a set of goggles (can be worn over glasses) that will bring the vector graphics leaping out of the screen, as well as adding some color.

New games entitled *Mine Storm, Narrow Escape,* and *Crazy Coaster* will be released for the Imager, and some of the old games will be adapted as well.

We'll take *Web Warp.*

RESIGNATION

We report this as a matter of record: Ray Kassar, the man who brought discipline to Atari, has "resigned" from his position as chairman and chief executive officer of that company.

It is unlikely that Kassar resigned in the true sense of the word, since Atari announced a replacement almost immediately. His replacement is James J. Morgan, a former marketing executive for the Philip Morris Company. Morgan's appointment continues an industry trend toward marketing expertise in the upper echelons rather than engineering or computer experience.

Reportedly, Morgan is going to learn the business of computers and videogames by, not only intensively studying the Atari situation, but clerking at a computer store to hear consumer complaints and questions.

In the first quarter of this year, Atari reported an operating loss of $45.6 million. That announcement, plus the fact that Kassar sold five thousand shares of Atari stock immediately prior to its being made public (a matter now being investigated by the S.E.C.), made the "resignation" inevitable.

Incidentally, and also as a matter of record, Atari reached an agreement in their lawsuit with Nolan Bushnell and Pizza Time Theaters shortly before Kassar left Atari.

When he quit Atari in 1976, Bushnell signed an agreement not to develop technologies that could be construed as being competitive with Atari until October 1, 1983. But Atari construed that Bushnell violated the agreement by publicizing his plans to manufacture and sell videogames when the agreement was up, and they filed suit on April 7.

The announced settlement of the differences between Bushnell and Atari (details not disclosed, as usual) calls for Atari to have exclusive home entertainment marketing rights to games Bushnell will produce through his Sente Technologies firm as of October 1.

STICKS, NOT STONES

In matters corporate or combat, it helps to get a grip on the situation.

Atari may be losing its grip corporately, but it has the situation in games well in hand with its new pistol grip joystick controller, called the Space Age Joystick.

Designed for use with the **2600** and compatible systems, the pistol controller is equally comfortable for right-handed or left-handed players. It will sell for $14.95.

Also for the 2600, and by extension the **Atari** and **Commodore computers,** and, with an adaptor, **ColecoVision,** are two new sticks from Comrex International of Torrance, CA.

The model CR-301 standard controller is square but contoured with fire buttons both right and left.

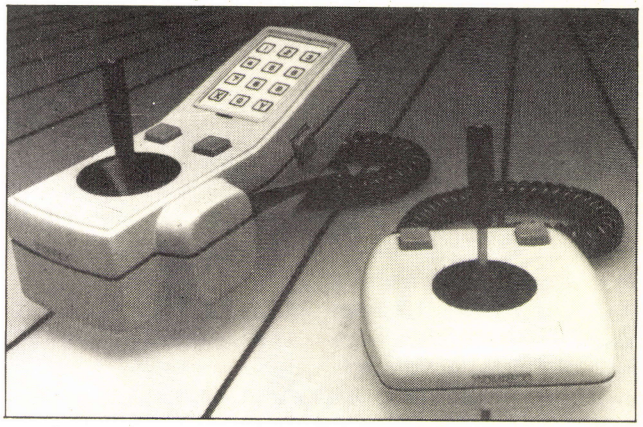
The deluxe controller has a fine tuning device, four user-definable fire buttons, and an option of free-floating or self-centering stick movement.

Both sticks can be held in the hand or placed on a tabletop. The standard controller lists for $19.95 and the deluxe for $44.95.

Standard and deluxe sticks are now available also from D-Zyne Video Products of Waterford, CT. D-Zyne is working on deluxe sticks for **Intellivision** and **ColecoVision,** but their newest releases are, again, for the Atari and compatible systems.

With a fire button centrally located, both D-Zyne's Supr-Stick Delux and its Xtra Lite have micro-switches (as opposed to bubble switches), which many of the new sticks have, including the previously mentioned sticks from Comrex. The Delux stick has suction feet and an automatic fire control. The Lite stick does not. Both carry a warranty.

The pistol grip controller from Atari.



The deluxe (left) and standard sticks from Comrex.

preview

E.C. Meade and Jim Clark review the latest videogames.

Enduro

by Activision for Atari 2600

Object

It's the early hours of the morning. You take hold of the controls of your racer, hit the accelerator and you're off. During the next twenty-four hour period you must pass two hundred cars, three hundred on subsequent days. You navigate along a twisting course, through changing lighting conditions and hazardous weather conditions, pushing the joystick right or left to move your car.

The action button is your accelerator. The longer you hold it down, the faster your car goes. When you've reached the desired speed, you release the button and that speed is maintained. To slow or stop, you pull back on the joystick.

The number of cars you must pass is posted at the beginning of each day. Each time you pass a car a meter records the achievement. When *you* are passed , the meter notes that as well.

An odometer counts off miles traveled and there is a "day" indicator. Once the required number of cars have been passed, green flags appear and additional miles are added to your total. You move onto the next day when the present day ends.

If you don't pass the requisite number of cars by daybreak, the game ends.

The race gets tougher with each new day, other cars traveling faster and spreading out across the road

J.C.: Much to my surprise and delight, *Enduro* leaves every other home racing game in its dust. That includes *Turbo* for Colecovision. Activision's graphics and gameplay are spectacular.

Ever since Atari's 2600 *Night Driver* knocked my then-unsophisticated eyes out several years back, I've been hoping for a next-step-up driving game. *Turbo* wasn't it since it didn't have that twining, tortuous feel I enjoyed. *Enduro* does.

Stupendous gameplay aside, the passage of time is beautifully rendered: we drive from daybreak through brilliant afternoon to dusk, sunset, nightfall, and back into sunrise.

Activision continues to make the best games around. I hope this is a monster hit for them.

Graphics: A

Gameplay: A

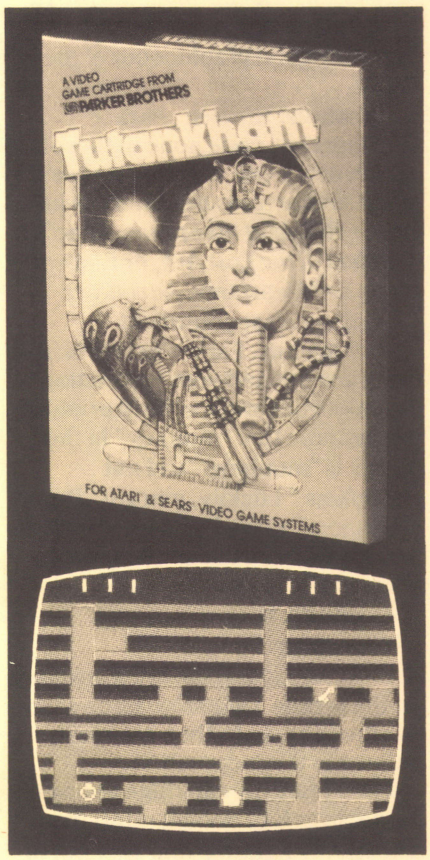
E.C.M.: I'm no less impressed with *Enduro* than Jim. It's a wonderful technical and entertainment achievement. However, I must confess to a little concern for the increasingly derivative nature of some of Activision's games. Elsewhere, we've noted the familiarity of *Happy Trails;* this game, if not a knockoff of *Pole Position,* is certainly of that school.

None of which—and I stress this—*none* of which is to detract from the game. It's a programming masterpiece, a player's delight, and probably the best game of its kind we'll be seeing for the 2600.

The ball's in your court, Atari, the example of excellence set. Let's see what you can do with the home version of *Pole Position.*

Graphics: A

Gameplay: A



Tutankham

by Parker Brothers for Atari 2600

Object

You are inside King Tut's tomb, where there are wonderful treasures to be had—and myriad dangers to be conquered. The monsters include giant bats, poison turtles and mutant viruses, all of whom roam the catacombs, along with more conventional menaces such as snakes, scorpions, jackals, and the like.

Just before it appears, each creature is announced by a slurp.

Your only weapons are your fleet feet, laser gun, and laser flash—the latter allowing you to destroy every foe in the screen in one grand flourish.

However, there is a Time Band on the screen which counts down slowly; when it is dry, so is your stockpile.

E.C.M.: If this is *Tutankham,* then I'm Michael Jackson. And I assure you, I neither sing nor dance.

What we have here, are most of the elements of the arcade game present and accounted for—yes,

everything except the exotic graphics and the excitement. Maybe I've been spoiled by the generally superb arcade adaptations on ColecoVision and the 5200; maybe Activision has shown us that you can get very good graphics out of the 2600.

Whatever the case, Parker Brothers has done none of these and given us a game which pales beside such similar treasure-quests as Imagic's *Riddle of the Sphinx*, Atari's *Raiders of the Lost Ark*, or that company's old warhorse *Adventure*.

A major disappointment.

Incidentally, Parker Brothers: if you luck-out and your instruction booklet goes into a second printing please note that "monkey" in the plural is "monkeys" and not "monkies." Luckily, you got "Desert Scorpions" right; I'd hate to think of our hero trying to dip a spoon into Dessert Scorpions. . . .)

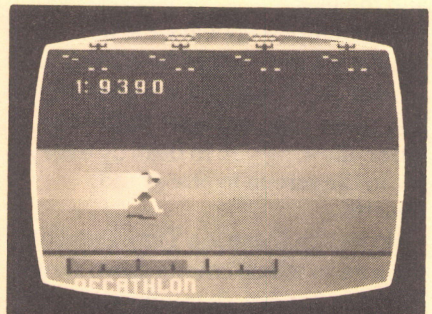
Graphics: D
Gameplay: D

J.C.: Since I found the brick graphics of the arcade *Tutankham* one of its aesthetic appeals, they are sorely missed in this incarnation.

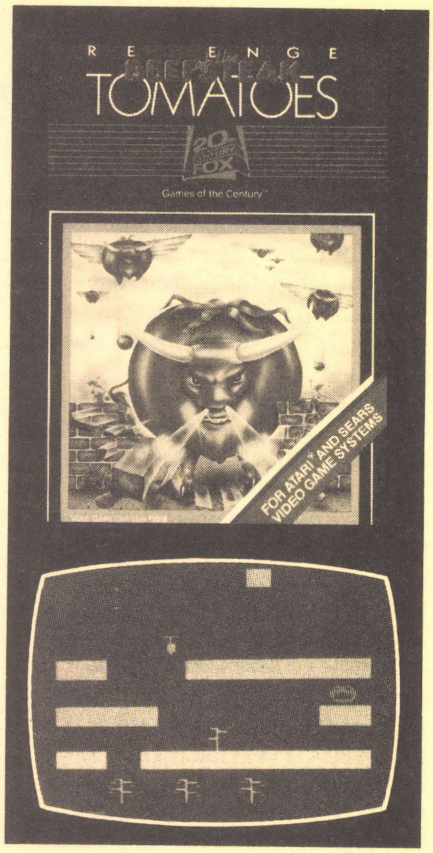
I don't find the cartridge as objectionable as E.C. does: it *is* fast, you're constantly fighting your way out of culs-de-sac, and a lot of the memory goes into creating the comparatively huge roster of creatures (eleven different varieties) and twenty-five royal objects.

Still, I can only recommend this to *Tutankham* junkies or Egyptologists. The rest of you will find it surprisingly primitive in its graphics and just not novel enough in terms of gameplay.

Graphics: D
Gameplay: C+



NEXT ISSUE
Jim Clark and E.C. Meade will examine Decathlon, *Activision's Olympic simulation that includes sprints, long distance runs, shot-put, pole vault, javelin, hurdles and more.*



Revenge of the Beefsteak Tomatoes

by Games of the Century
for Atari 2600
Object

The tomato plants and their ruby-red offspring are trying to take over the garden. Your mission: to brick-in the plants by grabbing blocks from the top of the screen and using them to build walls from side-to-side.

All the while, new plants are growing on the walls, threatening to eat the bricks; you must shoot roaming Beefsteak Tomatoes and missile-firing Cherry Tomatoes for points.

J.C.:The Twentieth Century-Fox videogame division is a company for which the term "paper tiger' was coined.

They took a wonderful concept like *Alien* and turned it into *Pac-Man*, forced both *Megaforce* and *Flash Gordon* into the *Defender* mold, and failed to score—despite heavy promotion—with such relatively original works as *Worm War 1, Fast Eddie*, and *Beany Bopper*.

Revenge of the Beefsteak Tomatoes isn't likely to change their fate. The company was obviously counting on the novelty of rampaging tomatoes to garner attention, but the fruit—yes, Virginia, tomatoes are a fruit—has been overexposed thanks to the movie *Attack of the Killer Tomatoes*.

All of which is unfortunate, because this one's the best of their cartridges.

The graphics are nothing special, but gameplay is most unusual. The bricks and tomatoes fly along the top; the walls you're building are on the bottom. Thus, you're constantly shifting from one to the other, invariably being detoured when a Tomato Plant begins to grow on the wall. The bricks come in random order and flit so quickly across the top that they are difficult quarry indeed.

Designer John Russell did a good job on this one.

Graphics: C
Gameplay: B

E.C.M.: Frankly, after being inundated with tomato products from Games of the Century—juice, paste, catsup, and even an inflatable beefsteak tomato—and feeling that the whole thing was a ripoff of *Attack of the Killer Tomatoes* to begin with, I was expecting the worst.

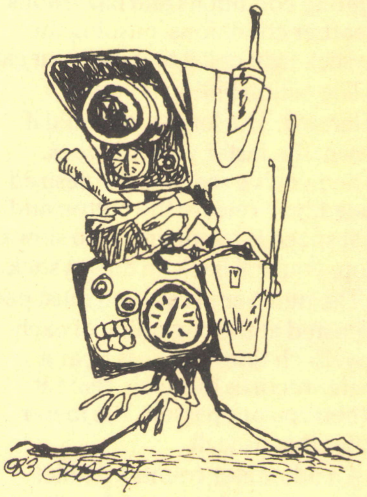
I was surprised.

This is a nifty little sleeper, requiring a good amount of skill—especially when three parallel walls are nearly completed and you've got to dart, maze-like, through them to blast a tomato plant or deposit a final brick.

Also challenging is the fact that if you fire a bullet while holding a brick, you lose the block.

Finally, Games of the Century allowed one of their games to ripen!

Graphics: C–
Gameplay: B



Safecracker
by Imagic for Intellivision
Object

You're a spy in a foreign land, your mission a brazen one: to drive along the streets of the capital city, eluding collisions with Citizens Cars and blowing away the cars of the Secret Police while you try to locate various Embassies.

Once you reach your destination, you must enter and rob the safe. This can be accomplished in one of two ways: blowing it up or picking the lock by running through various combinations until the numbers turn red. The latter takes patience—your time in the embassy is limited—while the former always brings on the Secret Police.

Points are awarded for various feats: ie, picking the lock rather than blasting it; points are subtracted for harming Citizens.

Directions to Embassies vary from game to game and are provided by a frame around the screen which changes color to signify your route (northeast, southwest, etc.)

The sidebuttons of the keypad control your car's bullets. Colliding with the sidewalk, a car, or a police bullet costs you a car, of which you have five.

Safecracker is for one player.

J.C.: A few issues back, I raved about Mattel's *Bomb Squad.* More than just liking the game, I understood the sophisticated market at which it was aimed.

Now we have *Safecracker,* which doesn't seem geared to anyone. The game is too deliberate for action fans—it can take *forever* to reach an Embassy in your sputtering automobile—and is frankly too simple for *Bomb Squad* fanciers. The codes are cracked with relative ease, and there's always the TNT. Since the Police Cars are relatively inept adversaries, there's no real drawback to using explosives.

In trying to do too much, Imagic has done too little.

The graphics, however, are lovely. As the player, you're at a point diagonally above the action, a position which creates a *Zaxxon*-like view of the colorful city. Traffic comes and goes, you can drive any which way you please, and the feel of the terrain is wonderfully sketched.

Take a look at this one in the store: once you've seen it, there's no reason to take it home.

Graphics: B+

Gameplay: C–

E.C.M.: Games of espionage are difficult to realize. Action and stealth must both play a part, and that's a tough balance to achieve. So far, it's only been done once in videogames, and that in the wonderful 5200 *Countermeasure.*

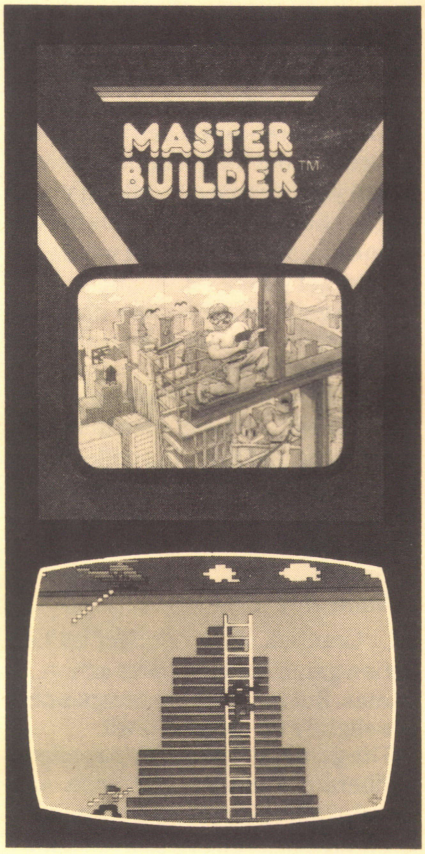
Safecracker isn't a *total* bore, just close to it. The one redeeming quality is that there's a lot to do, from shooting to driving to fleeing to robbing. Taken by themselves, none of these options is particularly riveting: only the constant hopping from one to the other, the smorgasbord flavor, makes *Safecracker* interesting . . . though, as Jim noted, not interesting enough to buy.

Putting an added crimp in the game, steering the car through the admittedly well-drawn streets is a pain due to the Intellivision disc.

Unlike Mattel, whose *Bomb Squad* and other complex games are obviously intended for adults, Imagic seems to be gunning for a crossover audience of adults and kids. The idea works better on paper than in practice.

Graphics: B

Gameplay: C+



Master Builder
by Spectravideo for Atari 2600
Object

To achieve the valued status of Master Builder, you must erect several structures in Spectraville. The blueprint for each edifice appears on the screen for five seconds: afterwards, it's up to you to gather bricks into that exact design.

A ladder is provided to help you reach the higher stories of each building. Of course, you must constantly beware the naughty Kid, who tries to upset your ladder; the annoying Spectradog, which scurries in and bites you unless you jump it, ending the life of one of your four builders; and troublesome Lightning, which can strike you while you're atop the building.

If you succeed in completing a structure, you board a helicopter to signify the end of the job. But if you do so without having finished the work exactly as detailed in the blueprints, you lose a life.

E.C.M.: It's faint praise to call this Spectravideo's best game: most of what they've done is junk. I found this interminably boring. I have to admit there's nothing else like it on the market, but I can see why. You can't whistle up the blueprint when

you need it, and memorizing it isn't so much a challenge as a bother. You don't play a videogame so that you can erect a building whose second floor has three levels, not two, and figure that out fifteen minutes later when you see that everything you did has been for naught. Give me a game like *Space Dungeon* where if you forget where something is, you've got to brave sundry dangers to go exploring—but at least that option is open to you.

Gameplay itself is ploddingly slow. The dog and company liven things up every now and then, but collecting a brick, hauling it to the site, moving the ladder, etc. and etc. and etc., is yawn-inducing.

Graphics: C–
Gameplay: C–

J.C.: Granted, *Master Builder* isn't an action game, and E.C. *likes* action games. But many of her complaints are slightly off target. To wit:

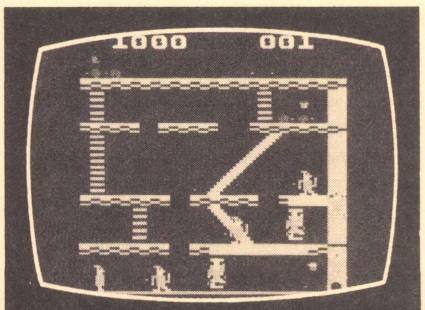
The game isn't slow, it's paced and deliberate. There's a difference. And the disruptive forces arrive frequently enough to keep things from coming to a halt.

Memorizing the blueprint gives your brain something to do in a hurry, something to remember—which is more than I can say for most videogames.

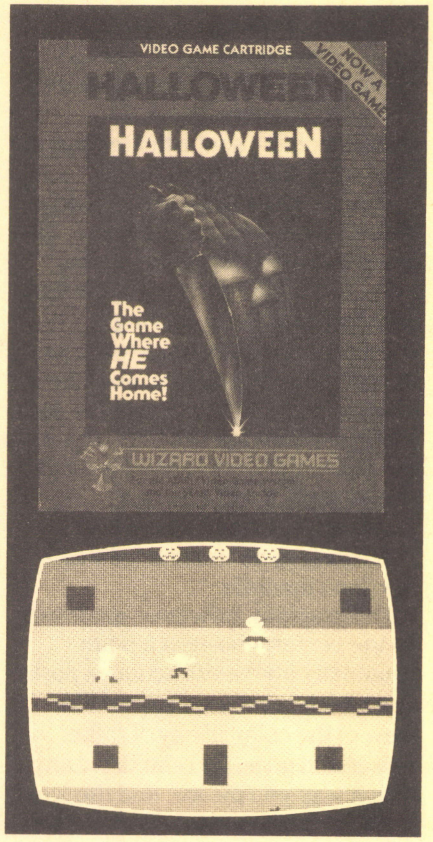
And finally, this is a *constructive* videogame, not a destructive one. It's about time.

I agree with E.C. that *Master Builder* won't be to everyone's taste. Kids won't be able to play it, and if you are an action fan you're going to find this comparatively dull. But the change will do you good, the challenge one you won't find anywhere this side of the Vic-20 *Pipes.*

Graphics: C
Gameplay: B



NEXT ISSUE
***Our dual reviewers examine Tigervision's* Miner 2049er.**



Halloween
by Wizard Videogames for the Atari 2600
Object

A violent murderer has escaped from an insane asylum. Returning to his home town on Halloween, he stalks a babysitter and her charges in a two story house.

You play the part of the hounded babysitter. There are children to collect and deposit safely in various rooms; stairways to go from floor to floor to escape the killer; and a knife to find and use for protection.

The knife can only be used when the killer's blade is in the "up" position. If stabbed, the lunatic will not die but flee. The weapon vanishes from your hand once it has been used, reappearing somewhere else in the house.

A child and the knife cannot be carried at the same time.

E.C.M.: A wonderful game, and I *know* I'm going to catch flak for saying that. Let me hasten to add that *Halloween* is *not* for every taste.

While the bonechilling music from the movie throbs from your TV—announcing the arrival of the killer on any given screen—you are torn between daring to save the children for points and saving yourself to continue the game.

Unlike *Space Invaders* or *Pac-Man* type games where death is abstract, *Halloween* is literal, providing an interesting psychological edge.

Playwise, the killer is dogged, his relentless pursuit making for a fast, nerve-sizzling cartridge. And while the graphics could have been more detailed—the halls of the house are dull and empty; a mirror or two would have added some interesting dimension—the bloody decapitations are at once shocking in their audacity, yet surreal enough to be ultimately inoffensive.

Graphics: C+
Gameplay: B+

J.C.: To paraphrase Frank Perdue, it takes a sick human being to enjoy this sick game.

I will allow that an explicit horror movie has a *raison d'etre*, chilling and entertaining the audience, then patting them on the head with satisfying resolution. In the movie *Halloween,* while the killer eventually escaped, at least the sitter and the kids were saved.

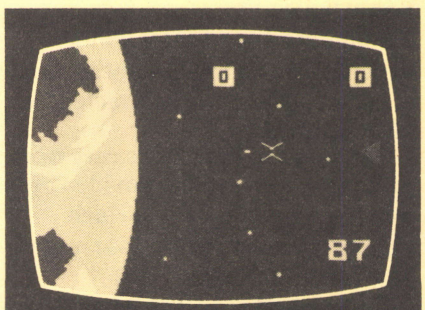
A videogame hasn't that same dramatic structure and, without a denouement, the identical subject matter becomes an exercise in unending sadism.

Witness *Halloween.* If you find the murder of children diverting, you'll enjoy this game. However, after you buy it I urge you to spend another thirty-odd bucks for a half-hour of professional help.

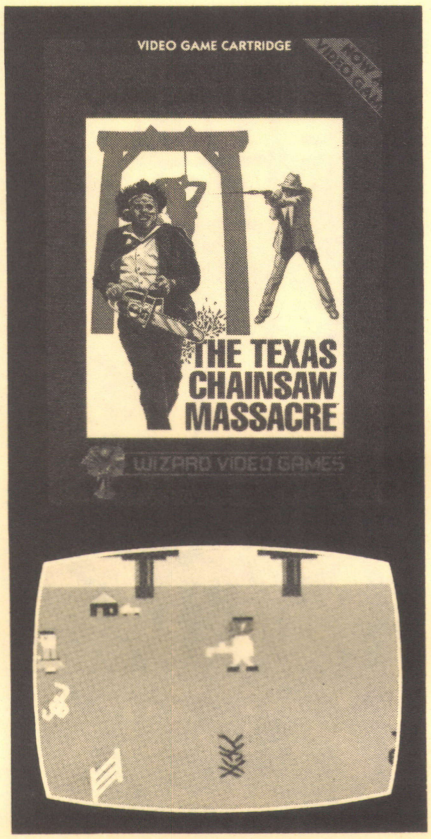
This is a twisted, unnecessary game, nor do I accept the rationale that licensing the popular film justifies this scenario. What next, *Spartacus? Sophie's Choice?*

Under protest, I offer the following:

Graphics: C
Gameplay: C



NEXT ISSUE
***Look for a review of Activision's new* The Dreadnaught Factor.**



The Texas Chainsaw Massacre

by Wizard Videogames for Atari 2600

Object

You essay the role of Leatherface, the homicidal, masked killer whose fondest desire is to slice people to bits using a chainsaw.

A group of tourists trespassing on your property is all the provocation you need: one by one you hunt them down, avoiding cow-skulls, fences, wheelchairs, and thickets which delay your progress.

When a victim is within reach, you start up your blade and try to slice them to bits. But watch out! Your supply of saw fuel is limited. When the tank runs dry, Leatherface is out of the hacking business.

J.C.: Without begging the issue of morality—more on that in a moment—I found *The Texas Chainsaw Massacre* a simplified, horizontal version of Data Age's ill-fated *Journey/Escape*—though here there are fewer obstacles between killer and victim, making for a less challenging contest.

The graphics are by-and-large just functional, though there is a nice sense of depth with elements in the midground and background moving at different speeds. Overall, you'd do better to pick up the dirt-cheap Data Age cartridge.

On to my larger criticisms of this game and Wizard's approach to the field.

While *The Texas Chainsaw Massacre* is marginally less offensive than *Halloween*—hearth, home, and family are not vandalized—the people who produced this cartridge have once again substituted sensationalism for creativity. Taste aside, there is a fundamental "wrong" in that. The talents in this field must strive to innovate, not eviscerate.

I hope the sex-and-violence mini-genre championed by Wizard, Mystique, et al, dies before it drags our otherwise respectable hobby to its questionable depths.

Graphics: C

Gameplay: D

E.C.M.: Jim's kneejerk alarmism reminds me of those pundits who predicted that rock and roll would corrupt an entire generation—the generation that ended up stopping a war, rocketing to the planets, and cashing in the chips of a crooked President.

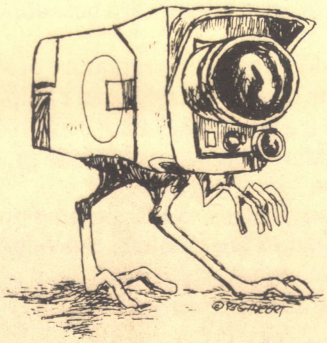
Rubbish, Jim; pure rubbish.

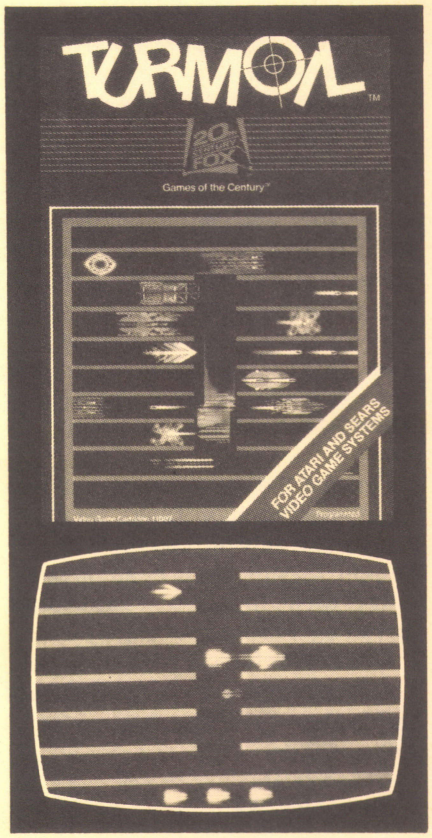
As a game, *The Texas Chainsaw Massacre* is the weaker of the two Splatter cartridges. The screen is relatively sparse, the greatest challenge occurring when you try to lay the blade on your slippery prey. The "death" graphics—part of these cartridges' admittedly perverse appeal—are also comparatively bland.

The sound effects of the chainsaw give the game a raw kind of menace, though I found the music in *Halloween* more visceraly ominous and integral to the game's . . . enjoyment?

Graphics: D+

Gameplay: C





Turmoil

Games of the Century for Atari 2600

Object:

Your ship is situated on the main road of an enemy fortress. There are seven streets which join it perpendicularly: enemy forces are continually attacking along those sideroads. Your job is to destroy as many as you can.

Collide with an enemy or be blasted by it and you are destroyed. Occasionally, indestructible Ghost Ships will appear; at other times, Prizes will surface. The former must be avoided, the latter collected before they can turn into ferocious, lightning-fast Supersonic Cannon Balls.

E.C.M.: This was one of the first Games of the Century releases; we apologize for getting to it so late. In all honesty, there were more important cartridges to cover.

This is a less dimensional version of M-Network's *Adventures of Tron* and TigerVision's *Jawbreaker*. I recommend both over this one.

As action games go, *Turmoil* is neither fast or multi-faceted enough to capture my fancy; inexperienced gamers just getting their feet wet are the only ones likely to find it appealing.

Just average, like too much of this company's line.

Graphics: C–

Gameplay: C

J.C.: I find myself at odds with E.C., who equates complexity with superiority. *Adventures of Tron* is just an overstuffed rehash of *Donkey Kong; Turmoil* is relatively unique.

For one thing, you don't have to wait for elevators: you can slide along that central corridor at will. Or you can move into the sidestreets. There's time to think, not simply react.

Further, the enemy ships must be handled differently: Tanks, for example, can only be done-in from behind. Blasting them head-on only delays them, though that has tactical advantages in the heat of play.

I'd have preferred to see less abstract graphics, and urge Games of the Century to recycle this one for ColecoVision.

Graphics: C

Gameplay: B+

Blackjack/Poker
by Coleco for ColecoVision
Object:

The familiar card games come to ColecoVision, for one to four players.

In *Blackjack,* the cards you hold must not total more than twenty-one points, yet be sufficient to best the sum held by the other player. You can ask for as many cards as you wish, but the game ends if you go over.

In *Poker,* cards must be collected to form high pairs, flushes, straights, etc.

In both games, you can choose the size of your wallet, although bets are limited to certain parameters.

E.C.M.: This cartridge was co-created by Coleco and card ace Ken Uston.

Let me state upfront that this is a wonderful cartridge for card buffs and layplayers alike. My criticisms are not directed at the game itself. Rather, I've heard Uston's criticisms of other card cartridges, so I'm somewhat surprised to find this cartridge more or less identical to Intellivision's *Las Vegas Poker and Blackjack.*

The "improvements" don't thrill me, such as being able to ask for Uston's advice in a sticky situation. Coleco may benefit from the novelty of offering the consumer an expert at their side, but I felt as though my privacy had been invaded. This is supposed to be fun, not a crowded casino in Atlantic City.

The technical touches—ornate cards, smirking turn-of-the-century dealer, the sound of shuffling cards—are all excellent.

My complaints are small overall: this is a fine cartridge if you don't already have the Intellivision version.

Graphics: B+

Gameplay: B+

J.C.: I'm still a bit uneasy about the notion of cards on video: if any pursuit is a purely social one, playing cards is it. To me, fellowship is as important as winning. While the avid solo player will be grateful for an everpresent partner, cards—like certain other pursuits—are best done by two or more.

Additionally, the signature of Mr. Uston on the cartridge can't help but give it a too-formal air. It's like having Alex Comfort at your side in those "other pursuits."

Nonetheless, as E.C. pointed out, the games are faithfully reproduced; if that's what you want, Coleco provides a royal flush.

Graphics: B

Gameplay: B+

SOLAR FOX
CBS Electronics for Atari 2600
Object

The player directs a space ship to run over —and thereby collect— a grid of solar cells while dodging the salvos of roaming alien sentinels. Clearing five racks of cells earns the player a Challenge Rack. The reward for clearing six Challenge Racks are six letters that spell out the secret of the game.

In the more difficult of the four games, a Skip-A-Rack board will appear. Clearing the cells before the letters on the screen disappears allows the player to, naturally, skip a rack.

Racks escalate in difficulty. The player earns an extra ship for every ten boards cleared. The fire button serves as a speed control: when depressed, the ship will go faster.

J.C.: I don't know what CBS' intentions were for *Solar Fox,* but as it turns out, the game is an excellent choice for the beginner or for children. At the outset, gameplay is very simple. The game theme is unobjectionable, and the abstract nature of the graphics will feed the child's imagination. Also, the fact that there is an overall mystery to the game—a long-range goal if you will—creates a tension that doesn't necessarily exist in each individual

grid.

The seasoned videogame player may tire of this one fairly quickly, but all others will want to consider grabbing it.

Gameplay: B

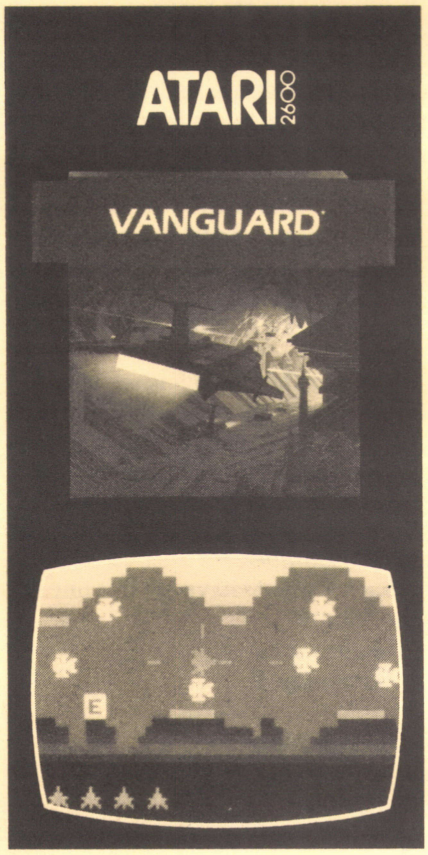
Graphics: C

E.C.M: The emphasis here is definitely on gameplay, not on graphics. Players seeking a visual extravaganza will be disappointed. But, as Jim suggests, the game is a must for beginners, while more skilled players can flick the difficulty switch and be intrigued for the duration.

Players seeking an unusual format will find it in *Solar Fox;* it is not reminiscent of any other games on the market. It is indeed a good choice for children; there is nothing childlike or condescending about it.

Gameplay: B

Graphics: C



VANGUARD

Atari for Atari 2600

Object

A spaceship with five lives is navigating a system of tunnels in order to reach the City of Mystery and destroy its despot, named Gond. The ship can fire in four directions—up, down, forward and back—as it moves through the Mountain Zone, Rainbow Zone, Stick Zone, Striped Zone, and Bleak Zone. Each zone has its own dangers, which include enemy ships called Mists and Harleys.

Crashing into the various outcroppings, stalactites and stalagmites can destroy the ship, but not if it has already been piloted through an energy pod. This gives the craft the power to destroy the various obstructions with head-on collisions without harm to the player's vehicle. If Gond is eradicated in the first City of Mystery, the spaceship is sent to tunnel two, which contains the same Zones as the first, but in a different order.

E.C.M.:Atari has done the best it could translating the Centuri arcade game to 2600 form. And, considering the 2600's limitations and the majesty of the original, that's saying something.

Although another in a long line of "Master Blaster" spaceship games, *Vanguard* has more inventive wrinkles than many other somewhat similar science-fiction cartridges. The rainbows that decorate everything in this game are very pretty, but distracting. Otherwise, the frantic gameplay can't be faulted, nor can the shifts from horizontal to vertical movement with each succeeding tunnel zone. I especially enjoyed the ship diving into the rocks when I ran out of fuel. Most other cartridges would simply have the ship stop or disappear. To each her own catastrophe.

Gameplay: B

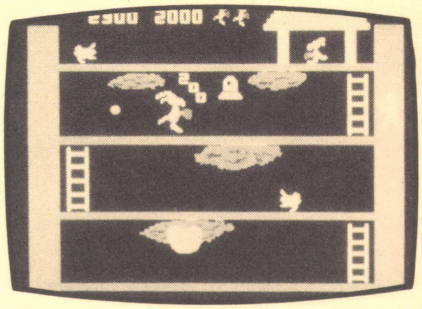
Graphics: B+

J.C.: I agree with E.C. that both vertical *and* horizontal play greatly enhances this game, but there are other delights to be found in *Vanguard.* I'm especially taken by the energy pod theme music. For the ten seconds that it lasts, I'm practically inspired to smash into every rock and enemy ship I can. I also like the "Auto-Play" mode that allows you to preview the game and plan strategy, as well as the Tunnel Map which keeps you abreast of your progress.

All in all, the folks at Atari obviously put some extra time and effort into this one, setting it apart from the usual run-of-the-mill streak and shoot trial. They needed to; this genre of games has very quickly outworn its welcome, in my view.

Gameplay: B–

Graphics: B



Kangaroo

Atari for Atari 5200

Object

Baby Kangaroo has been kidnapped by a band of monkeys. Parent Kangaroo sets out to rescue the joey by hopping up ladders and branches, punching out monkeys, leaping logs, ringing bells, gathering fruit, and both ducking and vaulting thrown apples.

Reach the baby and a new, more challenging screen appears; there are four screens in all.

J.C.: If we admit that *Kangaroo* and *Donkey Kong* are similar in theme and gameplay, it follows that fans of the impish ape will enjoy this 5200 cartridge.

Kangaroo is a good family game. It has a great deal of charm and the characters and their habits are quite amusing. Action fans may find the going slow, but then so was the original arcade attraction.

Not a classic, but a solid piece of cartoon entertainment for the system.

Gameplay: B

Graphics: B+

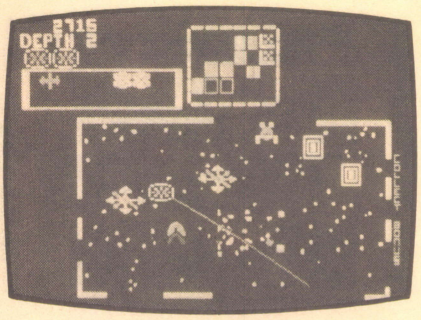
E.C.M.: As you may have derived from Jim's three short paragraphs, there isn't much to say about this one. It's a good adaptation of the original game, which wasn't so hot to begin with; nonetheless, it gives the 5200 a commercial "comedy" game for its catalogue.

For the record, I like this better than *Donkey Kong* simply because the kangaroo characterization is comparatively dimensional. It has a distinctive walk, a cute hop, a vicious left jab, and an appealing design.

Kangaroo may not be as impressive, graphically, as Coleco-Vision's *Donkey Kong* cartridge—for some reason, 5200 colors still aren't as vivid as those of its rival—but, like Jim said, it's a very pleasant family game.

Gameplay: B–

Graphics: B



Space Dungeon
Atari for Atari 5200
Object

You're the commander of an archaeological space flight searching for widely scattered objects which once belonged to a great civilization. When you have collected enough artifacts, you turn them in to a space bank for points.

As you move from screen to screen, gathering shards in different points of the galaxy, you must battle enemies in the form of geometric spaceships: Deathsquares, Guards, Enforcers, Thieves, Executioners, Spore Cases, and Pikers. Each has its own peculiar m.o.,though collide with *any* enemy and one of your three ships is destroyed.

After visiting the "bank," you automatically move on to an entirely new section of the galaxy, where enemies are more plentiful and more dogged.

This 5200 game is played with *both* controllers: one to guide your ship from screen to screen (there's a choice of space portals) and the other to aim your laserbeam.

E.C.M.: *Space Dungeon* gives the 5200 instant indispensability. Not only is it the best game available for the system—surpassing my previous favorite, *Centipede*—it may well be the greatest videogame ever created!

Certainly it's the most sophisticated: each sector of space is different from game to game, and the enemies are awesome to both kill and maneuver amongst. They roam randomly from screen to screen; you're just as likely to pass through a doorway and find nothing in the next sector as find a half-dozen different enemies. And they don't just mill about, they home in on you mercilessly.

The sound effects of your laser gun are phenomenal, and the dual-controls makes for a genuine sense of participation in a space battle rather than a videogame. They also work wonders for your coordination.

The geometric shapes of the enemy are not only lively and colorful, they're the most sinister and unusual-looking of any home *or* arcade aliens since the arcade *Defender*. And the graphics, when they explode, are phenomenal. DEvery bit of rubble is there!

A spectacular, habit-forming masterpiece!

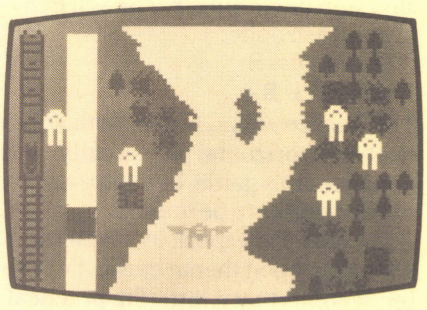
Gameplay: A+
Graphics: A+

J.C.: This is indeed the ultimate space shoot-'em'-up, a fuller version of Odyssey's *UFO* with its 360 degree laser gun and crowding hordes of aliens.

It's particularly refreshing to note that while the battles are fast, the player can take her/his time leaving a sector. Also useful is the map which the game draws at the top of the screen as you explore each new portion of the galaxy. Since you lose all your accumulated treasure when one of your ships is destroyed, the map allows you to retrace your steps, fighting your way back to where you were forced to jettison the artifacts.

You'll feel like you've lived through a real-life space opera after a few rounds with *Space Dungeon.*

Gameplay: A+
Graphics: A



Mission X
by Mattel for Intellivision
Object

You are at the controls of a World War II bomber, undertaking a daring mission. Your targets are battleships, aircraft carriers, tanks, trucks, trains, and such, and you must fight under both day and night conditions.

You can pilot up, down, left, right, or diagonally, dropping bombs and shooting bullets while the country-side scrools below. All the while, you will be peppered with flak and missiles fired from the ground installations.

There are four skill levels, with four chances per combat run.

E.C.M.: *Mission X* is as awful as *B-17 Bomber* was excellent. It is difficult to comprehend how one company could create both games, or that they're targeted for the same hardware. The graphics are embarrassing, the only remotely interesting effect being the plane's growing larger or smaller as it climbs or descends. Other than that, graphic interest is nil. Gameplay is both simple and simpleminded. You'll master most of the strategies in fifteen minutes, and lose interest in the cartridge fourteen minutes before that.

If you must have a shooting and bombing game of this type, *Sub Hunt* is superior in every way.

Graphics: D
Gameplay: D–

J.C.: Intellivision really missed the boat here—no pun intended. This game *should* have been played flat with a suggestion of three dimensionality. That is, they've got the bomber rising and falling: the entire contest should have been between aircraft, seen from above. Virtually every other air battle is viewed from the side.

Instead, they've rehashed the *River Raid* scenario—less effectively, I might add—and have us involved in the same tired bombing of ground targets. Not only is this skill easily mastered, it's downright insipid next to *B-17 Bomber.*

Mattel should have left this one in the hangar.

Graphics: F
Gameplay: F

Burgertime
By Mattel for Intellivision
Object

Chef Peter Pepper is in deep mustard! Pickles, hotdogs, and eggs are everywhere, chasing him up and down bun and food-covered ladders. There's no place Chef Pepper can hide: he's got to reach the bridges which litter the screen. Crossing them, he drops buns, burgers, cheese and lettuce to the level below. If he crosses them enough times, they fall to the bottom; creating completed

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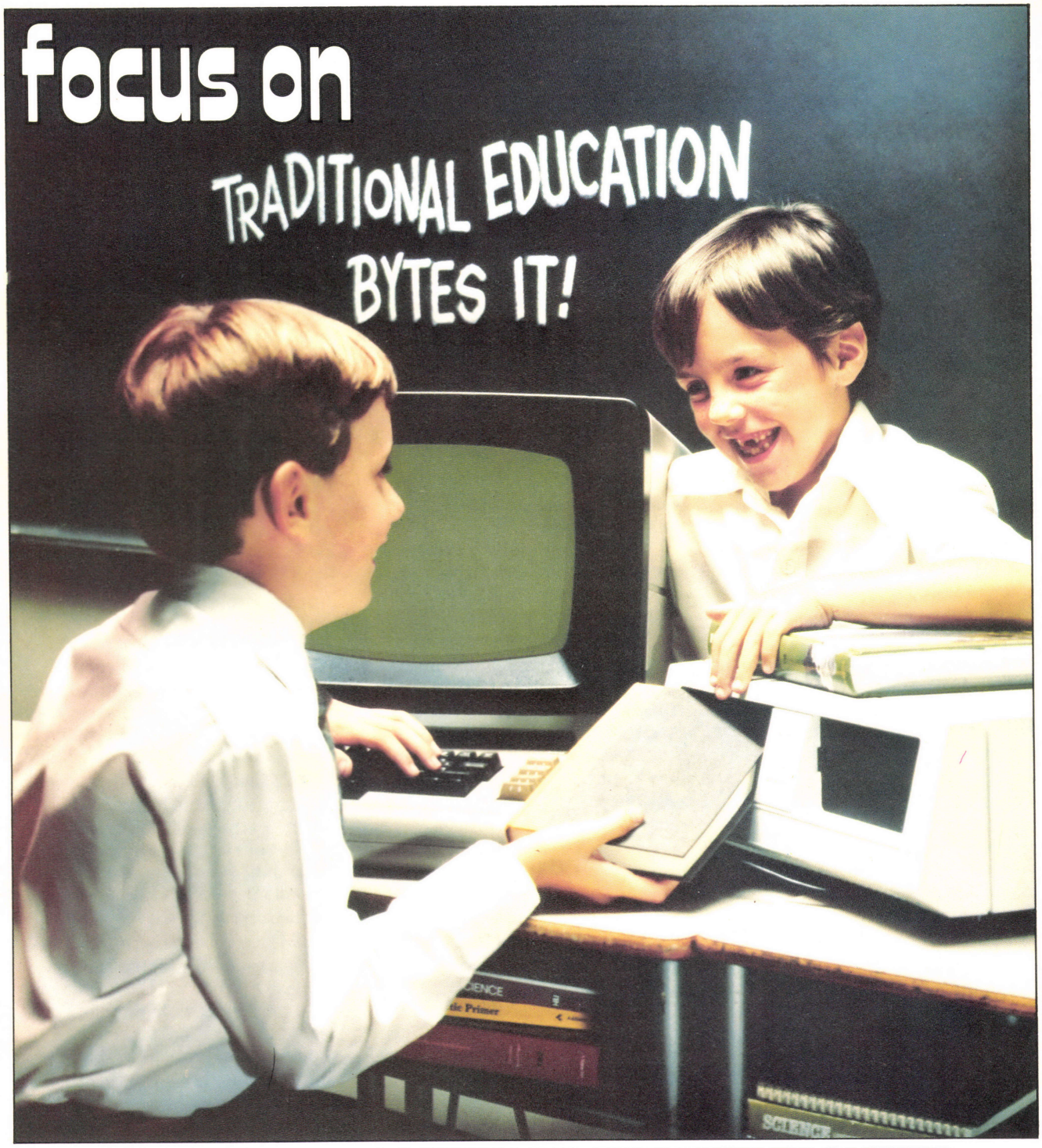


PHOTO: ROSS M. HOROWITZ

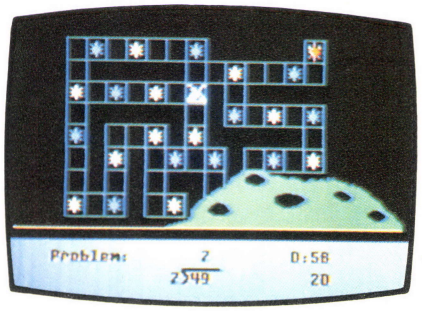
EDUCATIONAL SOFTWARE: THE NEW FRONTIER

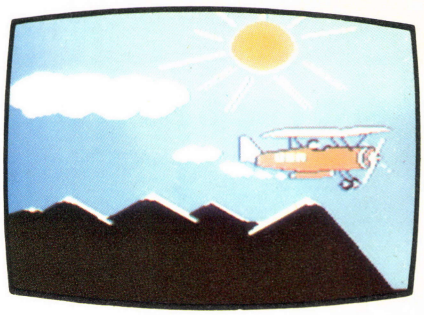
by Susan Levitan and Martin Levitan

Learning should be fun. It isn't always. Educational software should teach something. It doesn't always.

With personal computers finding their way into homes and schools more quickly than any of us thought possible a few years ago, the challenge is to select quality educational software for our children. School systems all over the country are attempting to come to grips with this revolution. They form commitees, attend symposia, and invite expert opinion to sort out what is good and what is bad about software. Following are some guidelines that will help parents gather the information they need to select among the hundreds of programs marketed as educational

If there is still any question as to the educational value of computergaming and educational software, a symposium at the Harvard Graduate School of Education this past May pronounced judgement. (See Sidebar, page 62.) At the three day conference a group of specialists including educators, psychologists, and others extolled the educational benefits of playing games. They agreed with early proponents of





***In its eleven year history, the Roklan Corporation evolved from a management consulting firm into one of the country's largest computer software companies. Their educational software division created* Picture Parts, Star Maze *and* Reading Flight.**

videogames that they improve eye-hand coordination and a range of other important intellectual skills as well.

These skills include inductive reasoning, spatial perceptions, and learning to handle multiple variables that interact simultaneously. Patricia Greenfield, a professor of psychology at the University of California at Los Angeles, said that in many videogame players must learn the rules from observation by themselves, like life. Like life itself, the games and other software would be a lot easier with good documentation and instructions. Before we discuss this guideline and others, let's see who else is watching and evaluating educational software.

WATCHDOGS

Minnesota and North Carolina have well established reviewing projects, and other states are initiating similar activities. Minnesota Educational Computing Consortium (MECC) is the nation's only statewide instructional computing network. MECC provides services for students, teachers, and administrators in Minnesota. They offer curriculum guides and develop and distribute educational software. Their newsletters, *Users* and *Dataline,* are excellent sources of information on computer learning.

Northwest Regional Educational Laboratory in Portland, Oregon runs MicroSIFT, a federally funded national clearinghouse for microcomputer-based courseware evaluations and related information. It operates with a network of evaluation sites. They have developed effective evaluation criteria that parents and educators should consider in software reviews.

Critical reviews are an excellent source of information in our search for quality software. The National Councils of Teachers and Mathematics both offer guidelines, as does the American Association of School Libraries and the California Library Media Consortium for Classroom Evaluation of Microcomputer Software. The Texas Education Agency also funds a statewide network of courseware evaluation.

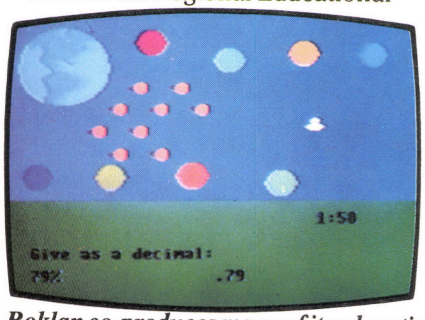
THE BIG PICTURE

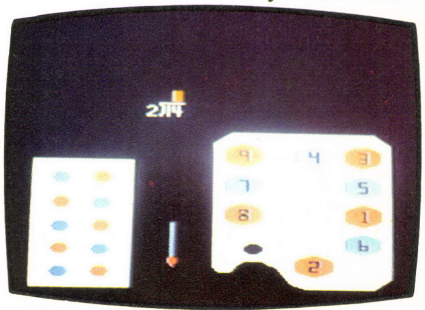
Computers can provide an *interactive* learning experience; no mere passive audiovisual show reflecting off blank, staring eyes. The child must react and participate in a dialogue with the computer. The goal is to deepen and broaden a child's understanding of the connections between the compartmentalized lessons of math, science, and history. The computer experience can even be used to drill a concept taught in school.

The guidelines assembled here are meant to help you clarify your goals in software purchases and serve as a checklist when you take the software for a trial run. There is so much bad, boring, and meaningless software available, we highly recommend you test it yourself before you buy. Testing can involve watching your child work with it in the store, witnessing a demonstration at a user's club or in a store, or heeding recommendations.

GUIDELINES

Objectives. The software program should be designed to reflect the ways in which children learn. The objectives and goals should be based on sound educational philosophy. Quality educational software should include clearly defined objectives that state expected learner outcomes. It is better to select software that focuses on very specific, limited topics and/or objectives in order to present information and/or concepts that are relevant to the child's needs and interests. The program should not be so general that the child has no clear idea of what is required or of what the desired outcome should be. The stated goals and objectives should be important to the parent. The goals should also be clear to the child and perceived as relevant to the learning situation. These goals should be part of the written documentation and may be stated on





Roklan co-produces many of its educational games with the Scott, Foresman Company. Most of these collaborations are aimed at elementary school children, and all, such as* Space Journey, Pyramid Puzzler *and* Art of Division, *boast excellent graphics.

the screen for the child. The objectives should make clear whether the software program is designed for drill and practice, demonstration, simulation, problem-solving, or other purposes. Educational software should do what it claims to do.

Content. Of course the content must have educational value as well as other characteristics. The subject matter must be accurate, clear, precise, and appropriate for the intended user, taking into account age, grade, ability, and interest levels. The content should be well-organized, information and concepts presented in logical sequence and in a consistent manner.

Slang should not be used, nor should incorrect English usage. Purported facts must be accurate. Current information should be used where appropriate but it should not become out-of-date quickly, such as facts found in an almanac on a yearly basis.

The level of difficulty of the material should be selectable by the user. Vocabulary, text, and concepts should be compatible with the intended user's reading and comprehension levels.

New information, concepts, and vocabulary should be presented using well-defined, clear examples, explanations, demonstrations, and samples. Graphs, charts, and other visuals should be well designed, accurate, and appropriate to the educational goals and content of the software.

Ideally, educational software should be integrated with previous learning experiences. The information, concepts, and skills learned can ultimately be generalized to other learning situations and life itself.

Values. When asked why he preferred videogames to television, a young boy replied, "On TV, if you want to make someone die, you can't."

Is that the message an adult wants a youngster to get from computergames? Play and educational play teach our children about our culture. When a child uses a program he or she enters the world of the programmer. It is a world that reflects an individual's values. The parent must decide if the values presented in the software represent his/her own.

The watchdogs of educational software suggest that racial, ethnic, sexual, and other stereotypes be avoided. Also, excessive competition and violence have no place in educational software, especially in instructional games.

Joyce Hakansson, a software developer, has focused on positive reinforcement. In her game *Raise the Flags* she took the old idea of *Hangman,* where success results in a negative act, and substituted a positive reward, the raising of the flag and a flourish of saluting. The decision about what values are taught to a child are critical to the child's development as a constructive member of society.

Motivational Enhancements. Good educational software should be interesting, varied, effective, and hold the child's attention. Various devices are used to motivate the user:

graphics, random order, timing, scoring, color, sound, personalization, and game format. These tools should not distract nor impede the user from the real purpose of the software: to learn. Rather, these motivational devices should *enhance* the instructional and learning situation. Verbal, nonverbal, auditory, and visual reinforcement are important in order for the child to be successful.

Ease of Use. The key is "user friendliness." Educational software programs should be sensitive to the developmental level of the user. The interactions, activities, and called-for responses should be reasonable tasks for the child; that is, appropriate for the age, grade, and ability levels of the user. Each program should be consistent in format—in the way it gives and receives information. Each program should indicate how the child is to respond and how to proceed to the next task. Clear, well-defined instructions should be presented in a manner the child will understand. If menus are used, they should be descriptive enough for the child to be able to understand and use them correctly. Many good programs have HELP keys if further clarification is needed. Sufficient examples should be provided in the directions. The program should provide help, in a positive manner, following incorrect responses. The educational program should follow logical steps paced to the child's abilities and developmental learning level. The text presented on the screen should be clear, well-spaced, and printed at an appropriate speed for the user.

Learning should be fun, at least at home. It *has* to be to compete with *Star Wars* action figures and *The Dukes of Hazzard.*

Dialogue. As a medium, video is very hot; it can overwhelm an observer and draw him or her in as a participant. Educational software that exploits the participation of the student, teaches by simulation and role playing. Even drill and practice software, which involves the user in a dialogue with an intelligent device must invite participation. The quality of dialogue between man and machine is critical to a positive learning experience.

User friendly courseware makes it easy to work through the program without being inhibited by the mechanics of the computer's operation. Clear and explicit instruction make this possible. Consistency in data entry routines is important. If the correct response requires a RETURN in one step and a "1" for yes in another without a RETURN, the result is confusion and sometimes frustration. Error trapping that permits retyping or deleting incorrect characters or allows an unanticipated answer without "crashing" are good design. Information requesting responses should be unambiguous. Other important considerations are the ease of entering data and the availability of such devices as joysticks, light pens, or paddles as alternatives to keyboard entry.

Math as Monster! Computergames and videogames will have to go a long way to dispel that particular notion. Software designers are giving it a try, however, with user friendly and encouraging mathematics games. Above, Mervin Fong's promotional still of an upcoming game from Spectravideo, **Number Crunch,** ***for the Atari 2600.***

The entire reward structure of the program must be well thought out. Positive rewards for correct responses should be more interesting than the responses to failure. Programs should not encourage guessing. Limits to incorrect responses should be coupled with further examples to clarify the problem approach. Rewards should be tempered with the appropriate restraint to avoid over praise. The program should monitor progress and adjust the level of difficulty to maintain interest. Other features of the program dialogue can be repetition of incorrectly answered questions later in the session; printouts of missed questions; avoidance of judgmental, unfriendly, impatient, and insulting or sarcastic messages.

The games-oriented approach to learning stresses interaction rather than drudgery. The proper use of the computer in communicating educational material can make even the most mundane drills tolerable, a positive experience.

Instructions and Documentation: Educational software is easier to use with good instructions and documentation. Instructions, directions, and explanations should be clear, complete, concise, well-organized and properly sequenced, as well as straightforward and understandable to the user. The instructions should clearly define the scope and focus of the program at reading and comprehension levels appropriate for the intended user. The child should be able to control the speed of presentation; that is, the instructions should not scroll off the screen until they are understood. The user should be able to return to the instructions if necessary during the program and be told how to do so (HELP). Instructions should be given for ending the program if the child wants to stop (ESC). Instructions may be given to allow the user to control access to certain segments of the program. Good instructions should avoid the use of computer jargon, such as SYNTAX ERROR, and instead explain computer operations where appropriate, such as NEED PUNCTUATION or LOADING FROM DISK, PLEASE WAIT. If for some reason the program crashes or ends, there should be instructions that tell the user how to continue rather than return to the beginning.

Documentation should indicate the method used to prove the educational soundness and validity of the software program. Good documentation should include such sections as a table of contents, an introduction, acknowledgements, objectives, summary, detailed descriptions, sample/demonstration run, recommended age/grade and readability levels, estimated time for completion, prerequisite skills and knowledge, uses and benefits in the learning process, related materials and activities, and an index. Good instructions are well-formatted on the screen and tell the child exactly what he/she needs to know to run the program successfully. Good instructions and documentation should support and supplement the software and are an important part of making the program really work.

Screen Format. The screen should hold the attention and interest of the child. Screen displays should be designed for ease of viewing. Material presented on the screen

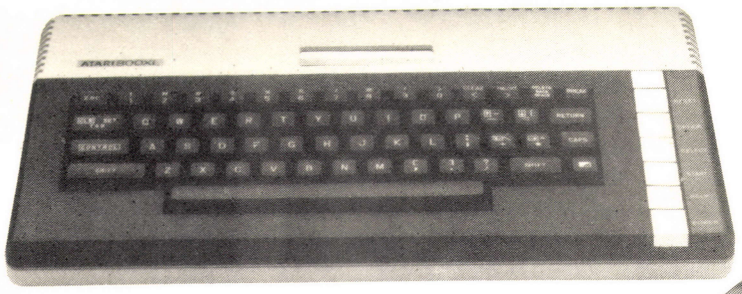
Continued on page 58

The Hardware Store

A superficial display for the window shopper.

Whether you are buying your first computer or a second model just for the kids, the same law applies: you should buy the most versatile, durable and capable machine you can afford. Determining which machine that will be is a matter of working backwards: decide what activities the computer will be used for (games? business? educational?) and find a unit that excels in supporting those activities. The variety and versatility of the software available for a computer, and the availability and cost of peripherals (printer, disk drive, modem etc.) are crucal to the decision as well. And there are always details: If you're looking for a computer primarily for the kids' home education, are there business applications as well? If there are, and you use them, the purchase is tax deductible. Also, is there a service center in your area? Shipping a computer through the mails for minor repairs is a major pain.

Under $1,000



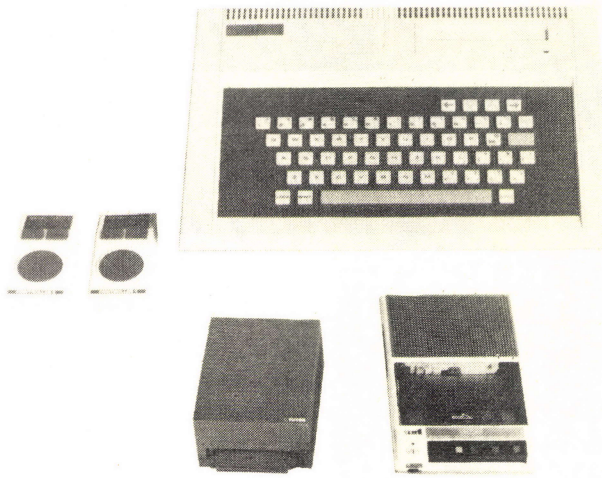
Most home computers sold are in this category. The most popular are the Commodore Vic 20 and 64, the Radio Shack TRS-80, the Atari computers (seven in all, including the all-new 800XL above left) and the Texas Instruments 99/4A (right). Most software developed is aimed eventually at these machines. Other entrants in this category include Epson, Panasonic, Spectravideo, and Hewlett-Packard.

Way under $1,000

Extremely low cost computers such as TI's new 99/2 (left) and the Timex Sinclair 1000 (right) are known as beginner's computers, useful mostly for learning the basics of computing. With low memory capability and low software support, they are simplicity itself.

$1,000 to $2,000

Most computers in this category are low in game-playing capability but very strong in most other respects. The most popular are the Apple II (Software Saturated) and IIe, the IBM-PC, and the Commodore PET. New machines include the NEC PC-8800 and the Commodore SuperPET (above), which specializes in education, specifically the teaching of computer languages. More useful to institutions than private homes is the superPET.

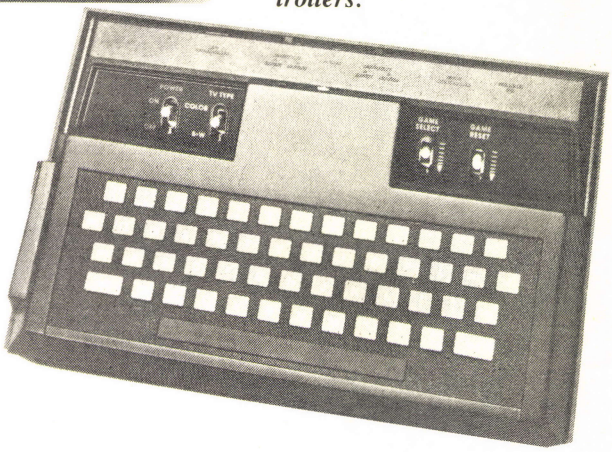


Child-Oriented

One of the first computers to be designed specifically with children in mind is the Tomy Tutor, with built-in BASIC, 32K ROM, 16K RAM expandable to 64K, sixteen color and eight octave capability. A voice synthesizer, disk drive, and printer have been promised as peripherals. Software and instructions have all been geared to children, but business applications are promised as well. The cautious consumer, when faced with a specialized and brand-new machine such as this one, should distinguish between what is promised and what is currently available.

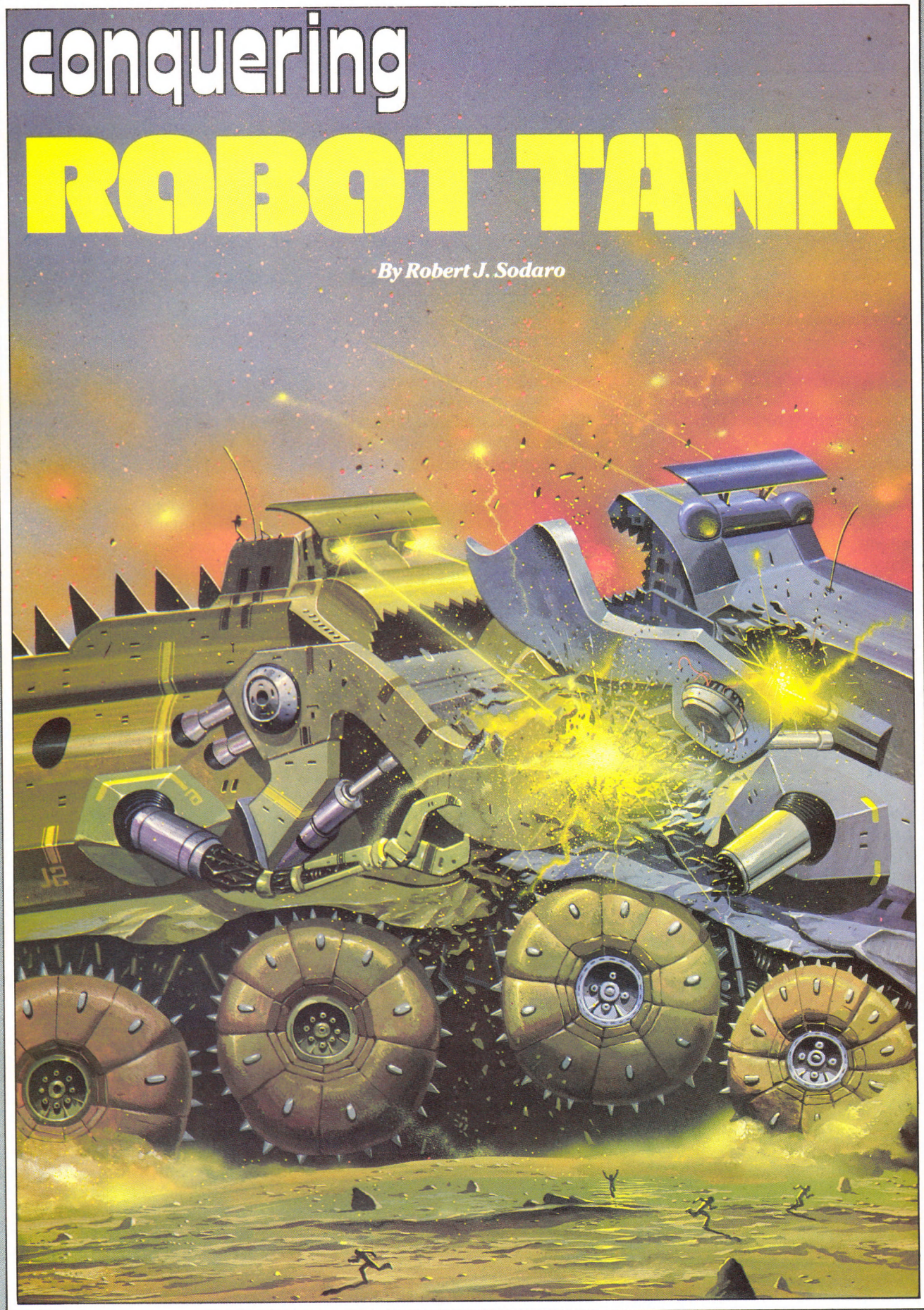
Game machine computer keyboards

Most of the major videogame systems now have computer modules and peripherals. This is a relatively new development, and it is too early to say how much software will be developed to support these systems. ColecoVision has its new Adam (below) (available also as a stand-alone computer) which we covered in our last issue. Intellivision has its computer, with software already available. The Atari 2600 has at least two keyboards (Atari's Graduate, below right, and the Entex Piggyback, below left) with a third possible from Spectravideo. Rumor has it that Atari is developing a keyboard for its 5200. Odyssey's Command Center, scheduled for release next year, will be a game-playing computer, but the Odyssey One and Two keyboards languish as no more than fancy game controllers.



conquering ROBOT TANK

By Robert J. Sodaro



Object

You can almost hear the pop and sizzle of corrosive nuclear waste as you insert this cartridge from Activision into your Atari 2600 and this scenario appears before you:

The Earth has been all but decimated by the fires of atomic holocaust. The hostilities of the late twentieth century have finally flared into open aggression. The once beautiful Earth has become a desolate wasteland.

Heedless of the destruction that they caused to their homeworld, the two superpowers still contend with each other for possession of what is left. Now though, instead of sending troops out into the radioactive battle areas, powerful robot tanks prowl the lands.

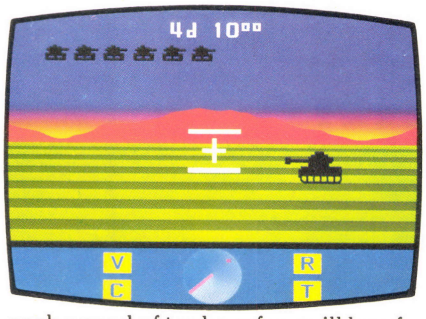
Each tank is equipped with the latest in modern technology, including a virtual endless supply of nuclear warheads. Worse, the enemy, being as crafty as they are, have developed a "stealth" tank, one that is invisible to direct sight but will show up on sophisticated radar. And there are further hazards: the excessive radioactivity in the air tends to play hob with the weather. Battles must be waged in rain, snow, and fog, day and night.

Patterns

As the game begins, your on-board computer shows that it is ten hundred hours and zero days. As the game progresses, the time in the upper right of the screen advances through the daylight hours. Dusk occurs between 1600 and 1700 hours. When you reach 2400 hours, the day counter (in the upper left of your screen) advances to one, and the deadly game continues.

You will always face one tank at a time, with each successive tank appearing after the destruction of the previous one. The first few tanks will appear in front of you, in plain sight, or just out of sight over the horizon. As you advance towards the enemy they will come very close, but you will never touch them tank-to-tank, as they tend to slip off either to your left or right side.

The deeper you drive into enemy territory the more their tanks will appear off your screen, even behind you. Therefore, it is important to keep an eye on the radar. Out of



each squad of tanks, a few will be of the stealth variety. These tanks will become visible for a split second when they fire, as they need all of their energy to shoot.

You have four indicator lights at the bottom center of your screen. They monitor your radar (R), turret control (T), visor (V), and cannon (C). When you are hit with an enemy warhead, depending upon how badly you are struck, you will either lose one or all four of your telemetry monitors. Should you lose all four of them, the tank is, quite naturally, destroyed. Then you will either switch to another tank, or if you are out of reserves, the game will be over.

If radar is destroyed, you are effectively blind and will only be able to see the enemy if it is directly in front of you. When your turret is hit, it will move as if it is mired in sludge. This gives your foeman an edge over you. When the visor is hit, it will open and shut erratically, causing your screen to blink on and off, interrupting your line of vision. The worst damage of all will occur when your cannon is hit. When it is damaged it has a tendency to misfire; you will never be sure if it will fire or not.

Should all four of these defenses be destroyed, your tank will become several tons of modern technological slag. At this point your view screen will scramble, short out, and a message will appear. The message will either inform you that you are switching to one of your reserve tanks, or that your mission is over.

Your on-board computer will also inform you when you have defeated a squad of enemy tanks, and that you have received an extra reserve tank. The computer will also warn you of changes in the weather. The rains fall around midday, while fog rolls in during the early morning and evening. The snow will not fall until the second or third day.

In the rain storms the sky will blacken and you will be hard pressed to see your foe. The fog is so dense that, until you are very close to the enemy, even the normal tanks will be invisible to the viewer. In snow everything will brighten up, and it will be extremely easy to spot the enemy's tanks. However, the ground will freeze up and make it very difficult to home in on a shot: Your tank will slip and slide out from under you. Each weather condition will last for only a few hours (game time), reverting back to original conditions when the storm has run its course.

Strategies

In *Robot Tank* there is one very important thing to remember . . . there are no home bases! It is just you, your tanks, and the enemy. So when you are hit, there is no garage to pull into for fast repairs. You are stuck with a damaged tank until it is destroyed. Yet, do not let this shake you up too much, for it is still possible to wipe out several of the enemy's war machines while you are limping along.

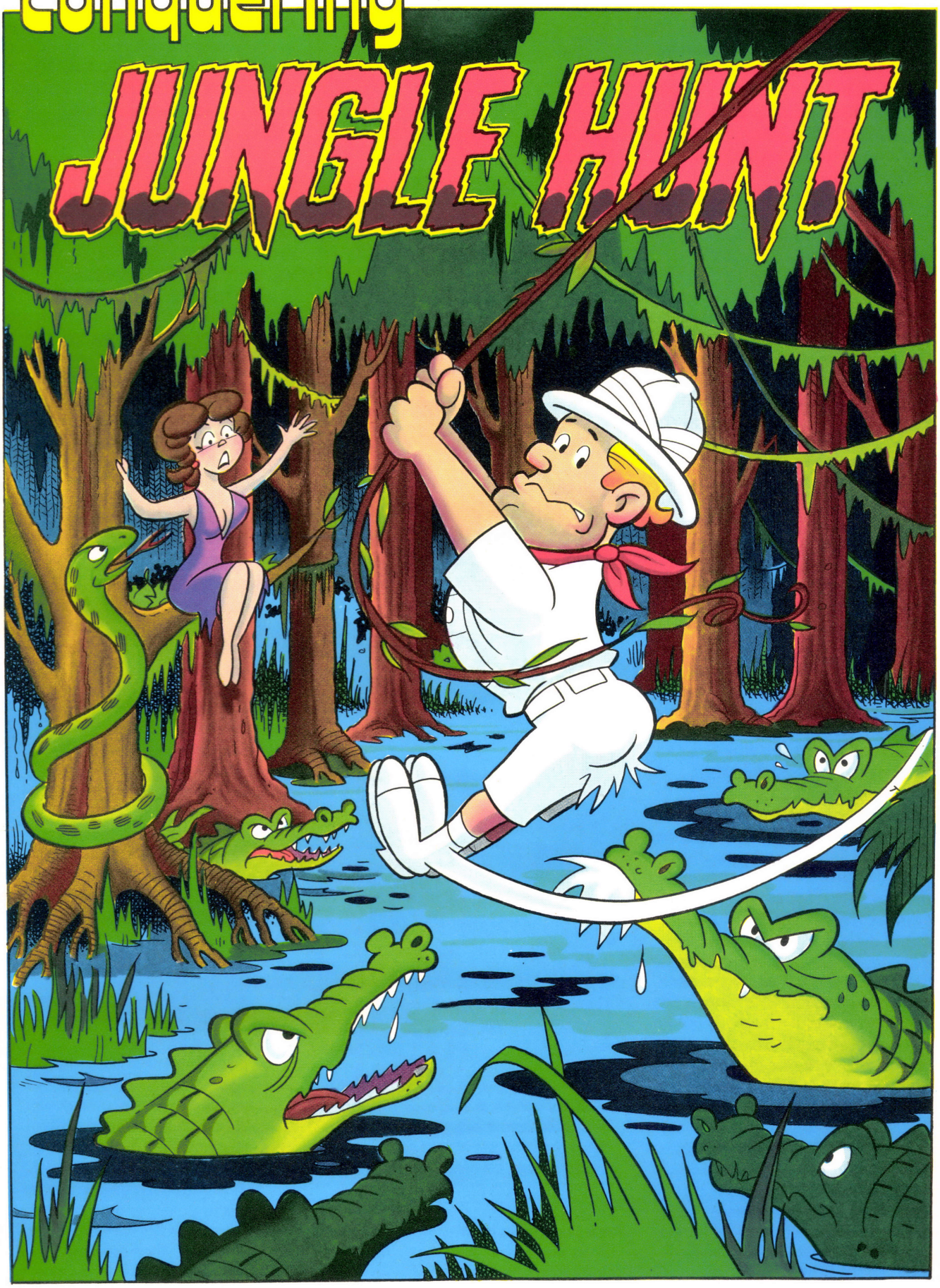
It is easiest to get along without radar and/or turret controls. For even without radar, the enemy has a bad habit of appearing a second or so before firing at you. Even if they fire before you see them, the odds are that their first couple of shots will miss, and allow you to return fire. When your radar is gone, drive forward, swinging your tank back and forth in a "Drunkard's Walk" so that you will be able to scan as much of the horizon as possible. This will also serve to throw off the aim of the enemy, if it sneaks up behind you.

Without turret controls, you must be careful not to over-compensate, and swing by your target. Should this occur it will be twice as difficult to line it up again, and it will have the chance to get off a couple of shots. When your visor goes down—or when you are up against the stealth tanks—you must watch your radar screen very closely. Wait until the tank is lined up in front of you and start blasting. It is advisable, under these circumstances, to lay down a pattern of shells, by firing just in front and just behind where the radar shows the tank to be. When your cannon is out, you must place your shots very well, as many of them will simply be misfires.

As stated, your supply of bombs is

Continued on page 75

conquering JUNGLE HUNT



Object

You are Sir Dudley Dashley and your wife, Lady Penelope (Lady P.), has been kidnapped by cannibals. It is your task in this *Jungle Hunt* version from Atari for their 2600 unit to rescue Lady P. and prevent her from winding up as the *soup du jour*. You must do so in less than five hundred seconds (or just over eight and a half minutes).

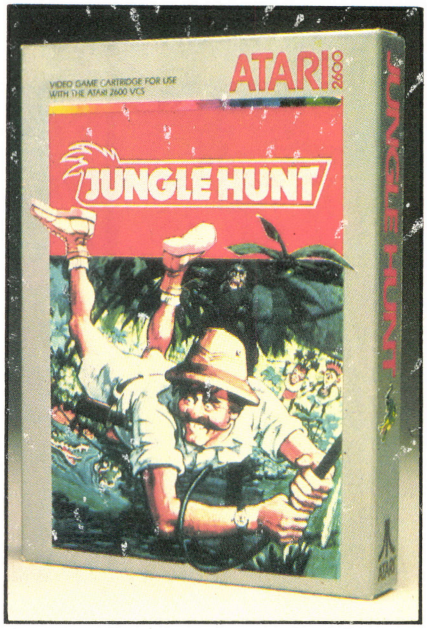
To catch up with his lady love, Sir Dudley must traverse the most treacherous parts of the dark continent. He first must travel by vine through the jungle to get to the edge of Reptile River. From there, Sir Dudley swims upstream, past schools of ferocious crocodiles. After passing fourteen of these deadly monsters, our hero must emerge from the water and run the length of Boulder Field. After dodging the hyper-active boulders, Sir Dudley will confront a pair of cannibals who will attempt to make cutlets of him. Once past these two, Sir Dudley is reunited with his lady, not to the tune of wedding bells but rather the dinner bell: Lady P. is kidnapped again, and Dudley begins the hunt all over in an escalated level of difficulty.

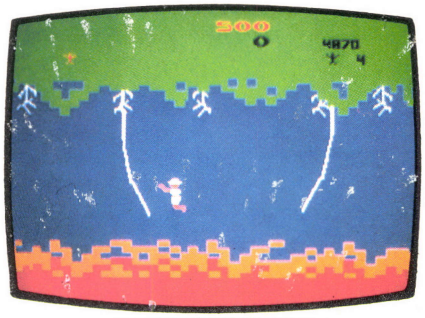
Scoring

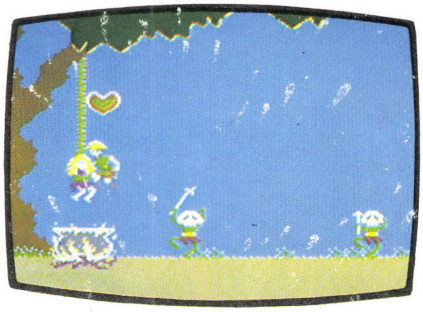
Scoring in *Jungle Hunt* is achieved by successfully negotiating Sir Dudley through each obstacle, and from one screen to another. Jumping successfully from one vine to another nets you one hundred points. Stabbing a crocodile with its mouth closed is also one hundred points, stabbing it with its mouth partially open is two hundred points.

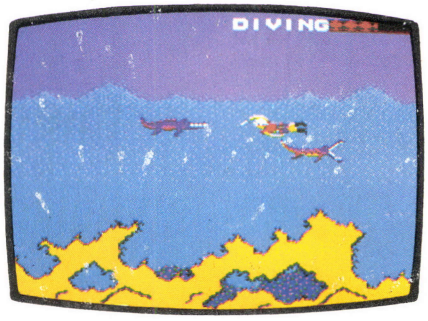
In addition to schools of crocs, there are also rogues, crocs who swim by themselves. By stabbing one of these you acquire three hundred points whether its mouth is partially open or not. Running under a boulder is fifty points, ducking under a boulder is worth a hundred points. If you choose to jump over the boulders they are worth two hundred points each. Jumping over the head of each cannibal is an additional two hundred points.

There are also bonuses to be acquired in this game. At ten thousand points Sir Dudley (who starts off with five lives) receives one more. Each time he exits a section of the jungle he racks up an additional five hundred points. When Lady P. is rescued, the computer will add three times the time remaining on the clock to your score.









To rescue the lovely Lady Penelope, Sir Dudley Dashley should look to Johnny Weismuller as inspiration to swing on vines and to swim the croc-strewn river. . . and then keep Fred Astaire in mind while dancing with the cannibals.

Patterns

The Deadly forest is perhaps the least difficult section of the jungle. All you have to do is time your jumps so that you will catch on to the next vine. The vines themselves swing back and forth at different speeds, so it is important to remember to always catch the vine on the upswing.

Should you miss a vine, Sir Dudley will drop off the screen and die (more or less). He will reappear on the last vine he was holding, ready for another try. There are eleven vines, and you will know that you have reached the end: the screen will not move forward. At this point, push the fire button to go on to the next screen.

Once in the river you will find yourself swimming amid schools of crocodiles. While they approach, they will be opening and closing their mouths as well as moving up and down in the river. The rogue is a loner, and his pattern is more erratic than that of his brothers.

In this section there is a second timer. This timer indicates how long you can stay submerged, which is just under fifteen seconds. After about ten seconds underwater you will hear a warning tone which indicates that you should head for the surface.

To kill crocs you must be below them and stab for their soft underbelly. A head shot from underneath is tricky but possible. Stabbing a croc in the tail, touching a croc without stabbing it, or trying to stab it while its mouth is wide open . . . these will also result in Sir Dudley's demise.

Assuming you get off on the right foot, Boulder Field is a lot easier than the crocs. All you have to do is successfully jump all the boulders. They come bounding towards you from the left side of the screen. With the small boulders, just wait until one is almost on top of you and then jump. For the larger ones you have to jump just as it reaches the apex of its bounce and is on its way down.

It is actually easier to jump over the boulders than duck under them. Only large boulders can be ducked under, small ones must be jumped. The best way to duck under a large boulder is to time it so that you are right next to it when it has reached the top of its arc, then pull the joystick towards you. This is very

tricky, and must be timed right, or Sir Dudley will get his brains bashed in.

When you reach the cannibal's camp, Sir Dudley will not be able to proceed until the cannibal is in the center of the screen. Then the cannibal will do a little dance, jumping back and forth, and occasionally pausing for a split second. The cannibal will not attack, unless you manage to jump past him. Then he will pursue you until you are well past and approaching the second cannibal (or Lady P.).

To jump the cannibal, you must time your jump so that the cannibal is either approaching you and on the down side of his jump, or stationary. Once past both of them, and at the side of the lovely Lady P., Sir Dudley and his wife will do their own little dance as the computer adds up your score. This done, it's off to the next level of play.

In subsequent levels of gameplay all the actions are speeded up; vines swing faster, crocs are more erratic in their swimming. Boulders bounce harder, and the cannibals themselves are faster and nastier. All of the basic strategies employed are the same, only requiring finer timing on the part of the gamer.

Strategies

As previously stated, all that is necessary in the forest chapter of *Jungle Hunt* is timing your jumps so that you can catch the next vine on the upswing. Sir Dudley has a tendency to catch each vine lower than the point he jumped from on the previous vine. However, it is possible to catch it higher if the vines are both at the zenith of their swings, and in the closest proximity.

As the skill level progresses, not only do the vines swing faster, but Sir Dudley's jumps become flatter. On the fourth level he very nearly jumps straight across with a level leap.

There are three ways to deal with the crocs. The first is to swim right through them, avoiding them at all costs. Now, while this will garner you only five hundred points for successfully navigating this screen, you will accomplish two things: you will save all your lives for use further on, and you will save time on the clock for a bigger end score.

The second way is to go after all the crocs, building up a big score early on, and getting closer to that extra life. This, though, is very dangerous, and you could wind up losing a life or two.

A third method is the most practical. In the early waves, while the crocs are relatively slow moving, attack as many as you can, and swim by any croc that is not easy to kill. Those would be the ones that stay close to the bottom of the river. It is nearly impossible to get under these, so leave them alone. As you come to the harder waves, you will have to let more and more crocs go by

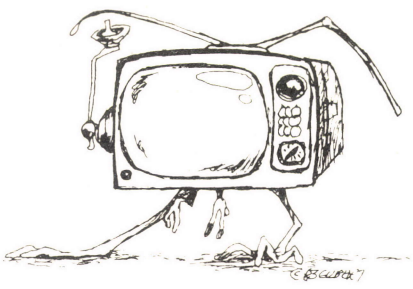
It is also important to remember while swimming that you have a limited supply of oxygen. Therefore, if you intend to bypass the crocs, swim at the top of the river. If you are constantly diving, or wish to swim at the bottom of the river (which is advisable if you are croc hunting) surface after every couple of kills. Do this especially if you catch a croc near the surface.

By using overlayed background scenery in* Jungle Hunt, *Atari has gone out of its way to dispel the "cheap graphics" image of their 2600.

While swimming, push the joystick forward. You will swim to, and remain, about mid screen. This will allow you enough time to react to the approaching crocs, while giving you ample room to drop back, should the need arise.

Use this same tactic while running through Boulder Field. You should have enough time to leap the small boulders unless you hit the jump button too soon, or too late. The large boulders are very tricky, as they bounce higher. If you are center screen, wait until they begin to drop, then jump. You should clear them virtually every time.

If you prefer to remain at the far right of the screen, there is no need to use the joystick, save to duck under large boulders. If you are at the far right, and a large boulder is approaching, it is best to attempt to duck under it, as a normal jump will not clear it. To hurtle a large boulder you must jump it while the joystick is pushed to the left.



To leap over the cannibals, you must move with them, and try to time your jump with their movements. When the cannibal begins his dance, run towards him as he moves towards you; when he jumps away, you turn and run away, then turn back when he does. Do this two or three times, so that you are moving in unison. When you feel sure of yourself, run towards him and jump over his head. Once you clear him keep running, as he will take up the chase.

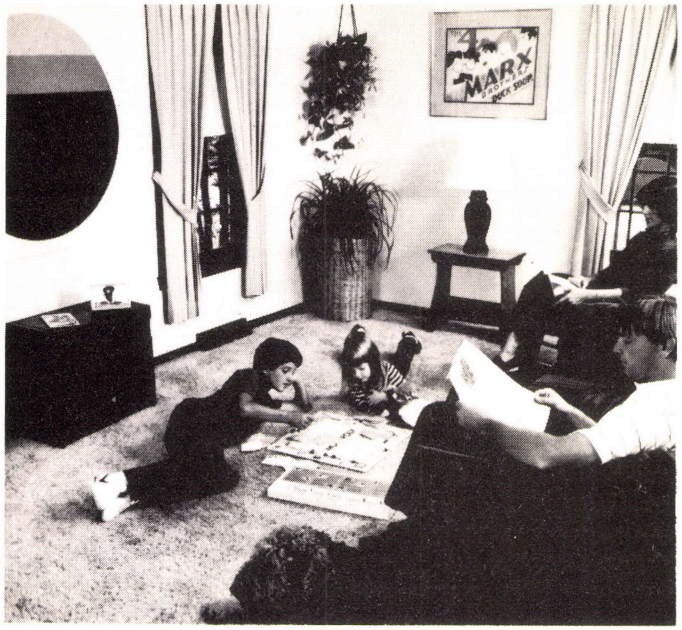
Repeat this maneuver on the other cannibal, and on all cannibals of other levels. Obviously, on the more advanced levels, the cannibals will be moving at a faster rate, so you will have to as well. Jumping the cannibals is perhaps the most difficult maneuver of the game, but getting past them provides the greatest reward of all . . . Lady Penelope.

Comment

It is refreshing to play a game that does not require one to blast alien invaders, blow up enemy vessels, or commit general mayhem. *Jungle Hunt* is a rescue mission deep in the heart of the African continent, and is a good deal of fun to play.

The constant changing scenery and variety of tasks make this game a giant step up from *Pitfall.* (While *Pitfall* does require no small amount of skill, the static scenery makes for dull gameplay.)

And now a word or two about those graphics . . . fantastic! Without a doubt, the graphics in *Jungle Hunt* are among the finest produced for the Atari 2600. Atari has gone out of its way to dispel the "cheap graphics" image of the 2600 with this game. The scenery is overlayed: each screen segment seems to have two different backgrounds that move at different speeds as Sir Dudley rushes past, which gives the illusion of three dimensions. This 3-D effect, and the fastpaced action, make *Jungle Hunt* a sturdy addition to anyone's library of cartridges.



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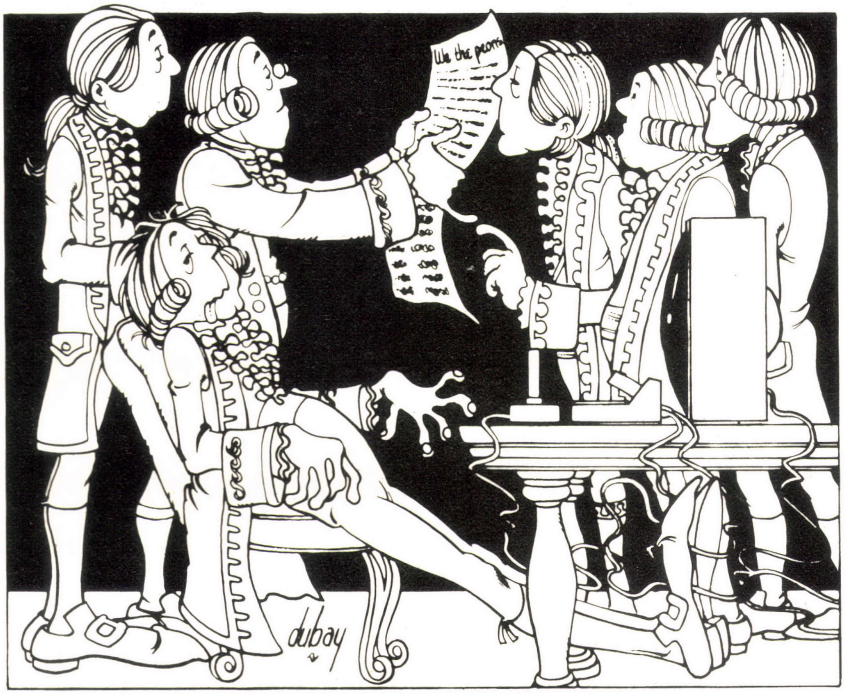

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DON'T BET ON THE CONSTITUTION!

by Stephen Bent, Esq.

Question: How is playing *Zaxxon* like watching a nude dancer? Answer: Both activities qualify as entertainment, but only one may be protected by the United States Constitution.

Can you guess which one?

Before you dismiss my little riddle as trifling or inane, consider this: right now, local governments across the country are considering adopting, or are already enforcing, restrictions on *your* access to videogames within their respective jurisdictions. In response, game manufacturers and operators alike have sounded the alarm and charged into court to challenge laws they feel go too far in imposing what are deemed arbitrary age or time-of-day limitations on the commercial use of videogames, in impeding the opening of neighborhood arcades, or in banning coin-operated videogames altogether. The success or failure of the industry's crusade will directly affect the ability of thousands of videogame enthusiasts to indulge in their favorite pastime with state-of-the-art, arcade quality equipment.

Just fascinating, you say, but what's all this have to do with the conundrum about nude dancers?

I'll get to that in a minute, but first we'll have to plow through some legal history. (Bear with me—it'll be worth it.)

Very soon after the U.S. Constitution was ratified by the requisite number of states back in 1788, a hue and cry went up for a "bill of rights," to be appended to the new law of the land, spelling out those individual freedoms guaranteed to the people of the fledgling United States.

The Constitution, you see, had vested in the new nation's central authority substantial powers to impose taxes, raise an army, and regulate interstate commerce, and there was many an ex-colonist who frankly distrusted the tyrannical potential of the federal government. (And who can blame them?)

Anyway, to make a long story short, Congress adopted twelve proposals for amendments to the Constitution (these from an initial 124—there were a *lot* of suspicious citizens back then). The states finally ratified ten, and in this Bill of Rights, up front in the very first amendment, was the prohibition that "Congress shall make no law . . . abridging the freedom of speech."

We really don't know what,

Stephen Bent is an associate with the Arlington, Virginia, firm of Schwartz, Jeffrey, Schwaab, Mack, Blumenthal and Koch, Esqs. Steve specializes in the law of patents, copyrights, and trademarks, and plays videogames only occasionally.

precisely, the drafters of the First Amendment meant by "freedom of speech." Not to worry, though. The U.S. Supreme Court has compensated for this gap in our knowledge by lovingly cultivating, for over a century and a half now, in its own herbarium of First Amendment jurisprudence, a veritable garden of libertarian blossoms, where there thrive some rather exotic "free speech" flora concerning constitutional shielding for the expressive rights of political dissidents as well as pornographers and other sundry social pariahs.

Moreover, judicial spading and pruning in the speech field is not limited nowadays to laws passed by Congress. What may have been an unintended expansion of the courts' authority to root out constitutionally infirm regulations was made possible by passage after the Civil War of the 14th Amendment, which says, among other things, that no *state* shall "deprive any person of life, liberty, or property, without due process of law." What the Congress meant by "liberty" and "due process of law" in 1868, when the 14th Amendment was adopted, is unclear. But over the years since then, and particularly in the last thirty years or so, the Supreme Court has come to regard the quoted passage as a dispensation to apply the Bill of Rights, including the First Amendment, to the acts of state governments and their proxies, the "home rule" municipalities, county commissions, school and zoning boards of the nation.

Quite naturally, then, the videogaming folks turned to the federal Constitution (as well as to the constitutions of the individual states) when they contemplated going head-to-head with local authorities hell-bent on clamping down on those dens of iniquity, videogame arcades. According to the city attorney of Malden, Massachusetts, for example, videogames have about as much civic appeal as a gypsy moth blight. "The moral fiber of this city is at stake here," he declared to the *Malden Times,* "and, quite frankly, I think video machines are sleazy. The city is going down the tubes if it allows them to exist." (Incidentally, Malden enacted a zoning ordinance which effectively prohibited videogame arcades as such. The law was held not to impinge on any First Amendment right by a federal district court in January.)

The fervor with which arcades have been assailed prompted one state judge to note, with tongue firmly in cheek, that the efforts of an Illinois city to keep those under eighteen away from coin-operated videogames, save when accompanied by a parent or guardian, reminded him of that Broadway classic, *The Music Man.* Quoth the judge, "one can almost see and hear that personable rogue, Professor Harold Hill, sing, 'There's trouble in River City.' Hill, of course, was warning his Iowa audience about the evils of newly-invented pool tables . . . In the case at bar, we review the potential impact . . . of an ordinance designed to protect the lives, habits and morals of . . . children from the potentially degenerating influence of newly invented electronic video games." (The judge ultimately cut the municipal ordinance down, citing several grounds, including the infringement of a "free speech" right guaranteed by the First Amendment.)

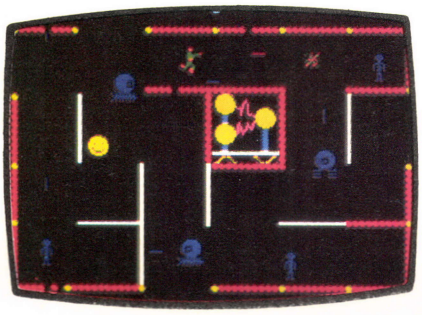
The nature of the "potentially degenerating influence" of videogaming mentioned by the Illinois judge has not always emerged with crystal clarity from the court battles. If you scratch the surface of overblown rhetoric like that of the right proper Malden attorney, you uncover concerns ranging from a feared upswing in crime around arcades to the belief that coin-operated games are "addictive" and "antisocial" and that they prompt kids to waste their lunch money on cheap electronic thrills. Lest you suspect I'm pulling your leg ("Wasting their lunch money?!"), let me quickly add that there is no dearth of self-styled experts willing to testify in court on the sociology of videogaming, and a contingent of these subscribe to the theory that arcades attract a criminal element and can harm the mental health of habitués.

Still think I'm kidding? Harken, then, to the sworn statement of a retired police officer which was presented to a Massachusetts state court considering the validity of a municipal ordinance prohibiting the ownership of electronic games except for "private in-home use":

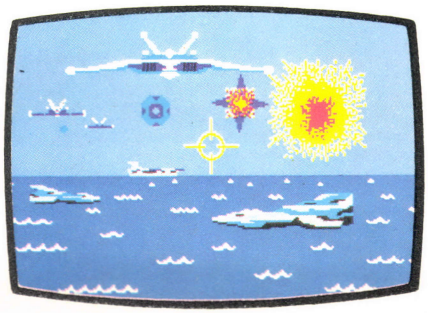
. . . I have concluded that the commercial operation of coin-activated amusement devices creates an unwholesome environment to which impressionable young children are drawn, and exacerbates the pro-

Continued on page 74.

"It's your own fault! You should let your father win now and then."



Can you handle Evil Otto? ColecoVision owners, and later 2600 owners, will only know for sure when they try Frenzy, *a caromatic maze shoot-out.*

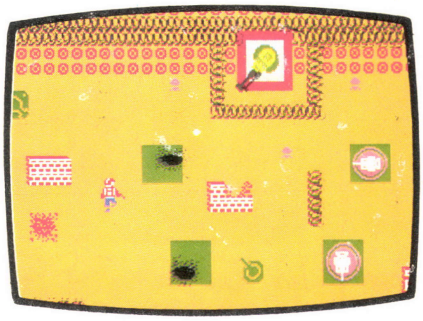


Day and night, dawn and dusk, the player must battle ocean-going ships and stratosphere-sallying saucers in ColecoVision's sizzling Subroc.

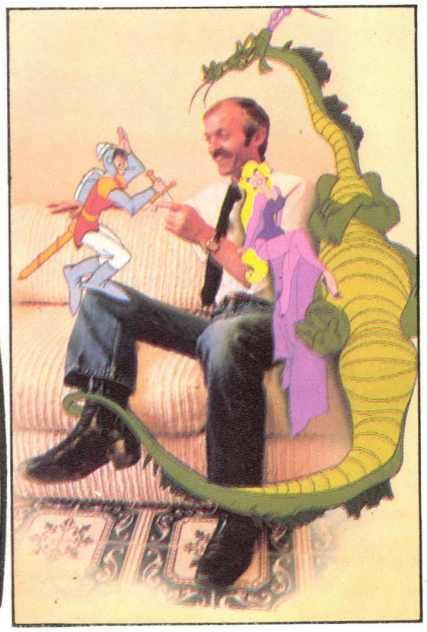
Long-awaited is ColecoVision's Buck Rogers: Planet of Zoom, *a hypnotic trench warfare game in which the player tackles a formidable Mothership.*

Tarzan

Two further upcoming games for ColecoVision are Tarzan *(left) and* Front Line *(right). Hunters, intruding on Tarzan's jungle domain, have captured the ape man's friends and it is his, and the player's, task to rescue them.* Front Line, *adapted from the popular arcade game, pits the player against snipers and tanks and grenade-lobbing foot-soldiers as (s)he assaults and peppers a stronghold with hot lead and rocketfire. A multi-screen, challenging, game.*

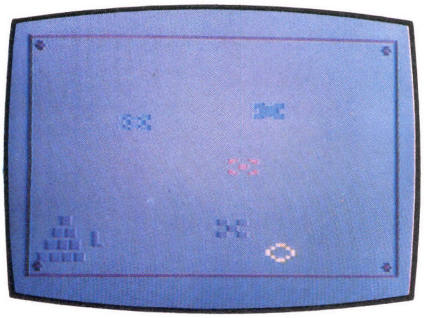


Front Line

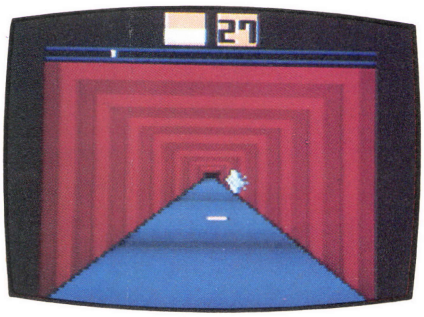


Laserdisc has burst spectacularly on the arcade scene with Don Bluth's Dragon's Lair, *an interactive movie/game from Cinematronics. Bluth was a Disney animator before he struck out on his own with a film feature,* The Secret of NIMH. *With Bluth's new game, the player decides which course Dirk the Daring will take in rescuing Princess Daphne from a dragon; the length of the game is determined by the player's skill. Threats and obstacles include the giant chicken foot, Mudmen, slime, goblins and geysers.*

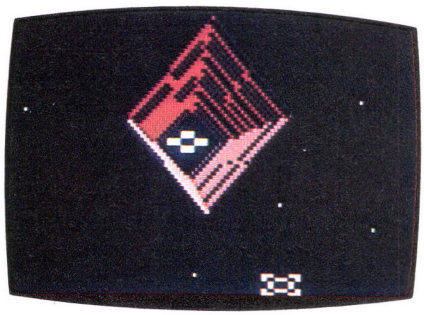
Kangaroo *(top) will soon be adapted to the Atari 2600 format by Atari. Rescue your baby 'roo from the mischievous monkeys! To help children learn how to use the Intellivision computer keyboard, Mattel is releasing* The Flintstones Keyboard Fun.



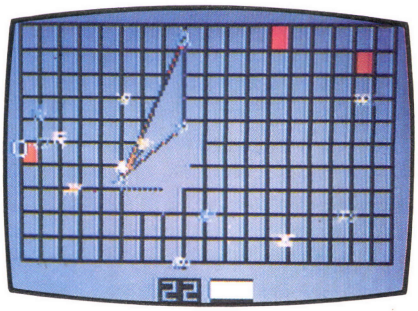
In childhood, we are but empty vessels to be filled with knowledge and . . .



. . .experiences, which are of many characters, dangerous to pleasurable.

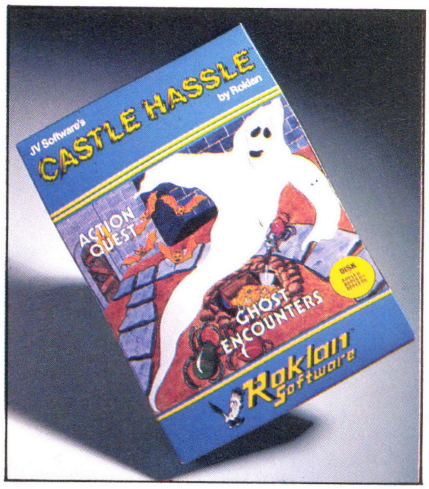


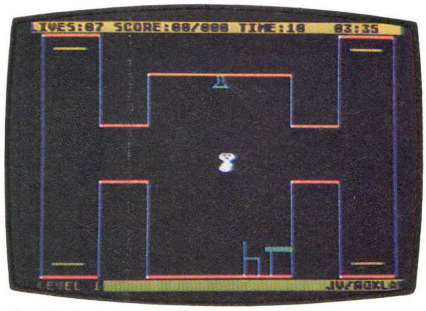
Opportunities must be seized and capitalized on so that we can . . .

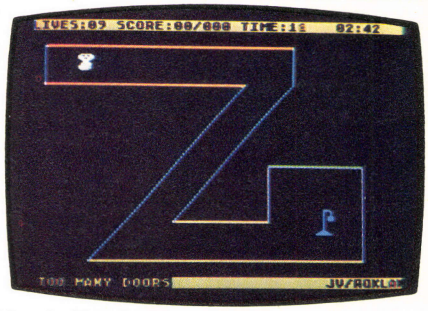


. . .brag about ourselves at cocktail parties, the ultimate destiny of us all.

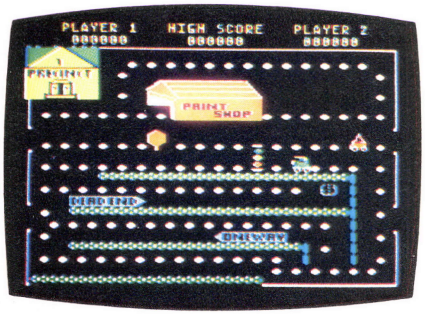
Lifespan, *for the Atari computers from Roklan Corporation, is unique, at least in theme. A game description will clarify. The game begins in familiar computergame territory: outer space. From out of the void swirls a helix. From the helix are born five characters. The player chooses one character, builds that character's personality from childhood (top left) and then takes that character through life to its death in a series of scenarios. One such is the vortex of experiences (top right); the player can grab many experiences or avoid them entirely . . . but in that case the player will be penalized. Opportunities will appear (bottom left) and the player must work his/her way inside them. Friends and influence can be gained in the conversations network encounter (bottom right). Though the game can continue until the player's character's demise, the entire experience is meant to be upbeat. While the graphics are of uneven quality, the player is ensured hours of play with multiple screens and five characters.*



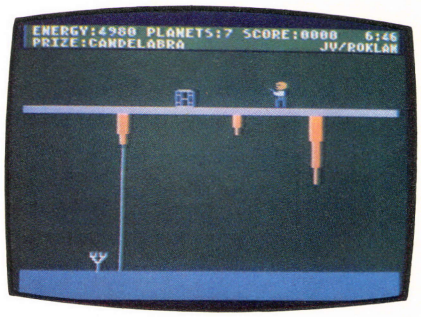




A slightly more otherworldly title is Roklan's Castle Hassle *(above). It is actually two games in one: a combination of the JV computergames* Ghost Encounter *and* Action Quest. *The player is invited to explore sixty rooms in search of forty separate treasures. Quick thinking and an analytical mind are both required, according to Roklan reps, to play this game for the Atari computers and the Commodore 64.*



Two less cerebral bids from Roklan are Da Fuzz *(left) and* Journey to the Planets *(right). 'Da fuzz' (keepers of the peace, if you please) are in hot pursuit of the mischievous player and his auto. The player must avoid accidents and get his/her car painted in order to avoid the constables. For the Atari computer.* Journey to the Planets *is a treasure hunt through the solar system for Atari and Commodore.*



TROUBLESHOOTING!

A Guide To Home Joystick Repair

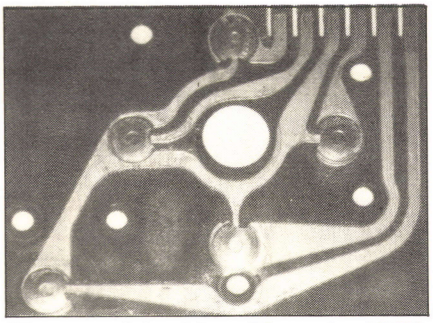
By Bob Guerra

Over twelve million Atari 2600s have found their way into homes all across the country, and with them, over twenty four million joysticks. This easily makes the standard VCS joystick the most used controller in the industry. Most people, however, have no idea how this joystick is made, how it works, or, more important, what to do when it doesn't.

With many VCS compatible joysticks available for between $10 and $20 (some even less), a malfunctioning joystick, to many, simply means it's time to buy another one. The choices are many, the prices are right, and many models include features not currently found on standard 2600 sticks.

If, on the other hand, you've developed a certain affection for this old work-horse, you may want to try your hand at fixing it yourself the next time it's in need of repair. If you are so inclined, the first step should be assembling your own joystick repair kit. Here are the items you will need:

1. A small Phillips head screwdriver.
2. A pair of wire cutters.
3. A pair of needlenose pliers.
4. Some insulated wire, ie # 22 or thinner.
5. Electrical tape.
6. *EarthWorld, Berserk,* or any other cartridge which allows you to leave the on-screen figure in one position indefinitely without losing a game life. It should also make some use of the action button (firing, changing screens, etc.).



The exposed circuit board for an Atari 2600 joystick.

Although the VCS joystick is fairly small and light, it is sturdy and usually holds up well under normal use. Therefore, most of the problems you encounter will be of an electrical nature. If the joystick won't allow you to move the on-screen object in a certain direction, or if the action button ceases to function, the problem can usually be diagnosed and corrected in less than an hour, through a few simple tests.

To begin, set up your game system as usual, and slip *Earth World* into the cartridge slot. (If you use *Berserk,* select game number twelve and, using a working joystick, shoot all the robots. You can now stay in the room indefinitely since there's no Evil Otto in this version).

Plug the malfunctioning joystick into the left controller jack, then remove the four screws from the base. Lift off the top portion of the stick but be sure not to drop the red action button or the small spring it rests on. The spring should be taped in place inside the button, and this should be put aside until you're ready to reassemble the joystick. The top of the joystick can also be put aside; all that you're left with is the base containing the rectangular circuit board.

The circuit board is nothing more than five "bubble" type switches connected by a specific pattern of metallic printing. The four switches surrounding the large hole in the center of the board correspond to the on-screen movements up, down, left, and right. The switch in the top left corner is activated by the action button.

Press each of the bubbles while watching the TV screen. If the game reacts appropriately, then the problem may have been that the white plastic insert was improperly aligned (in the case of a direction problem), or the spring wasn't providing enough tension.

If the problem is with the insert, make sure the tabs that depress the switches are in the proper position, then reassemble the stick. The spring can be replaced, if necessary, with the spring from a ball-point pen. Use wire cutters to cut it to length (about 5/16″). Also, keep this in mind should the spring accidentally be misplaced.

In the event that the bubbles don't all operate correctly when activated

by hand, chances are there's a loose connection where the cord attaches to the circuit board. Check the bottom right side of the board to see if all six insulated wires from the cord are attached properly. If any have come loose, just slide the loose wire back into its metal clip and close it tight with needlenose pliers. Loose clips can be tightened in similar fashion. Now test each of the switches again. Don't be discouraged if the problem persists. You'll just have to dig a little deeper.

It's the function of each of the five switches to momentarily connect two of the six wires. Therefore, you can bypass any given switch by connecting the two appropriate wires with a short length of your own insulated wire. (Strip about ¼" of insulation off of each end). To determine which wires correspond to the inoperative function, refer below:

Problem	*Wires**
Action Button Won't Work	*3-6*
On-Screen Object Won't Move Up	*3-2*
On-Screen Object Won't Move Right	*3-1*
On-Screen object won't move down	*3-4*
On-Screen Object Won't Move Left	*3-5*

[* Wire # 1 connects directly below the right bubble switch. The rest are numbered down in sequence with # 6 connecting at the bottom right corner of the board.]

Now, snugly insert one end of your test wire into clip # 3, from the circuit board side. Touch the other end of the test wire to the appropriate corresponding clip and check the screen to see if the function is working properly. If so, retighten the clips and wires until the bubble switch can be operated manually. Then reassemble the joystick.

If bypassing the switch with the test wire fails to affect the game, there's probably a break somewhere on the wire. Finally, if bypassing the switch works, but retightening the slip fails to restore function to the bubble, the switch itself may be worn-out.

To positively determine whether or not the switch is malfunctioning, remove its wire (other than # 3) from the circuit board and replace it with any wire from a working function. If the switch is good, it should now operate the new function. This would indicate that the problem is a break somewhere in the original wire. If the switch is bad, the circuit board will have to be replaced. (More on replacement parts later).

Locating a break may be the most difficult part of repairing your joystick. Once you've determined which wire has a break in it (if it's # 3, none of the joystick functions will work), start by checking that part of the wire between the end of the black casing that houses all six wires, and the circuit board. The break will look like a sharp bend or crease in the wire.

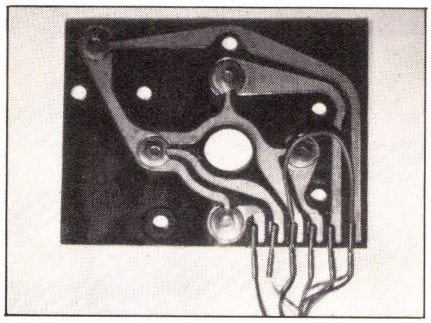
The next time your mobile cannon suddenly becomes immobile, fix your joystick yourself. You'll learn alot and the money saved can be spent on that hot new cartridge you've been thinking of buying.

If there is no obvious break in this part of the wire, attach the test wire to the two appropriate clips, and watch the TV screen as you gently bend the cord. Work your way from the base of the joystick to the plug testing the cord at about one-inch intervals. When you locate the break, your on-screen figure will begin to move. Test the cord a few more times at this location in order to exactly pinpoint the break.

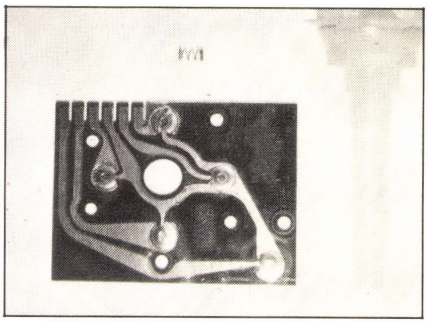
This done, carefully strip off about an inch of black casing surrounding the break. Then, using wire cutters, split the colored insulation of the broken wire and strip ¼" of insulation from each end. Cross the exposed ends of the wires and twist them together. Fold the twisted end over so it lies flat against the other wires and wrap the entire one-inch section with electrical tape. Remove the test wire, reassemble the joystick, and you're ready to continue your Quest for the Sword.

Problems such as broken inserts or worn-out switches require the purchase of replacement parts. A complete "Atari Joystick Repair Kit" is available from the Atari Game Club, 1700 Walnut Street, Philadelphia, PA 19103. The price of the Kit is $4.50, and it contains one plastic insert, one spring, one circuit board, plus simple instructions. Many authorized Atari service centers, mail-order houses, and video game stores also sell these parts.

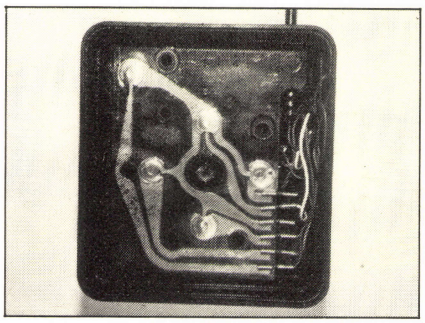
So the next time your horizontally-mobile laser cannon suddenly becomes immobile, or your photon torpedoes get stuck in the hold, fix it yourself. You'll learn a lot, and the money you save can be spent on that hot new cartridge you've been thinking of buying.



Circuit board with yellow test wire in place to check firing problem.



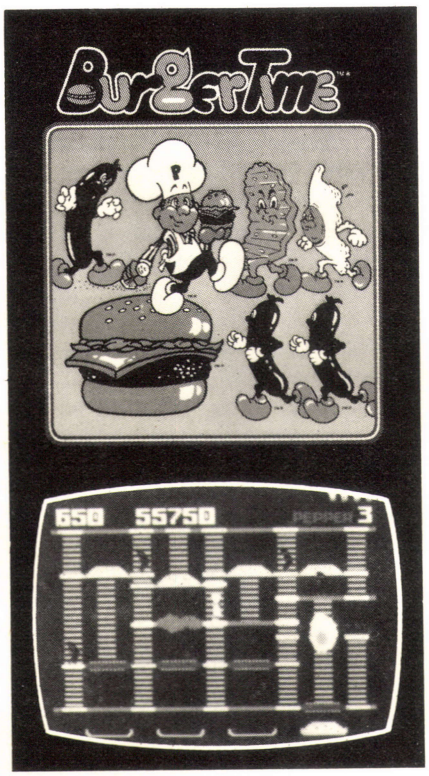
The contents of an Atari joystick repair kit, including circuit board.



The circuit board in position in the base of the Atari joystick.

PREVIEW

Continued from page 18



hamburgers.

Since Pepper's clientele are hungry, he's got to keep on running!

His only defense against the pursuing digestibles is a limited amount of pepper he can hurl on his enemies to stun them, but only momentarily. His supply can only be replenished by grabbing the fries, ice cream, coffee, or catsup which appears on a central bridge every now and then—usually when Pepper is nowhere near.

The object is to reach Burgertime: videogame nirvana which sees all the burgers made, all the customers happy, and the next, more difficult level just ahead.

J.C.: If enough people find out about this game, there may be some hope for Intellivision. If not . . .

Burgertime is an unqualified delight. Similar to Coleco's *Space Panic,* it calls for much more strategy: you can drop a hamburger ingredient on one of your antagonists and score extra points; you can wait until they're *on* the ingredient and drop it with them on it, scoring highly; or you can do both, really racking up the points.

If you wait too long for everything to be in place, however, you may find that one of the canny devils has circled around the entire screen and left you trapped.

I hope this cartridge gives its maker many calories of success!

Graphics: B

Gameplay: A

E.C.M.: *Burgertime* is, to be sure, a wonderful game, though unless you've attached a joystick to your keypad, you'll have a heck of a time maneuvering Pepper along the sharp, quick angles he needs to succeed.

Think about it, Intellivision: your stubborn adherence to the disc has proved a whopper of an albatross!

While fans of *Burgertime* may find the disc frustrating compared to the arcade controls, this is a faithful and generally satisfying home edition. The arrangement of the ladders from screen-to-screen are nicely varied, and there are four different speed levels from which to choose.

I'm especially impressed with the graphics. While they may not be up to the arcade version, the visual characterization of Pepper—especially the way he raises the hem of his garment while climbing—and the personalities of the food are superbly sketches.

A very good job for a very inadequate system.

Graphics: B+

Gameplay: B

Z-Tack

by Bomb for the 2600

Object

You're a space jockey who has been sent to an alien world, where your mission is to raze the planet's hostile cities.

The saucer-ship you command can move horizontally and vertically. Some of the cities sit out in the open; others are guarded by walls which offer only the tiniest opening.

Of course, none of the cities just sits and takes it: they shoot back, forcing you to dodge and weave constantly.

At the same time, past a certain level the cities fire missiles which don't disappear; they form Balls which hover over the cities and destroy you on contact. At the highest levels, the balls turn into Jets which zip across the screen. Collision with a jet means oblivion.

Z-Tack is for two players alternatively.

E.C.M.: I've got to hand it to the Onbase Co., Inc. It takes guts to name your videogame line "Bomb." Let's hope it doesn't, because their first release is a winner.

Granted, you've seen the elements before in *Atlantis* and *Laser Blast,* but never in the same frantic and challenging game.

The visuals could be better; it's blobs-for-spaceships time, folks. And the cities are uninspired. But you won't have a chance to notice—this one moves like a rocket.

My only major complaint: the bloody instructions were written in the Orient by someone who evidently didn't have much knowledge of our language. Try these on for size: "Fine spots gain excellent points," "Be careful the bases may vertically move upward, shoot them, don't miss!," and my favorite, "You may loss one jet."

Regardless, I'm looking forward to the other games announced by Bomb—even if some of them *are* vaguely familiar: *Assault* (*Demon Attack* revisited), *Great Escape* (the return of *Asteroids*), *Splendour* (*Shark! Shark!* meets *Kaboom!*) and *Wall-Defender* (a blend of *Solar Fox* and *Pac-Man*).

Graphics: C–

Gameplay: B

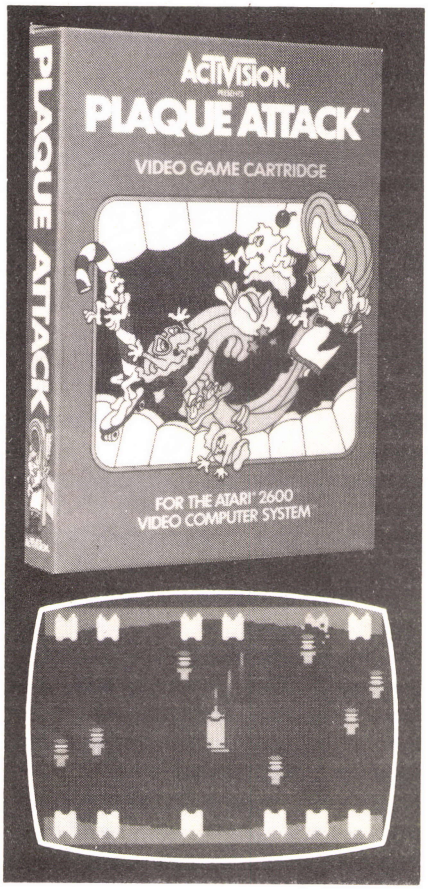
J.C.: I like gameplay a great deal, though I feel the familiarity of the

theme and the drab graphics are going to put a lot of consumers off.

That's too bad, since the Balls and Jets in particular give a new and difficult wrinkle to the game's standard swoop-and-bomb motif.

If you've got the money to spend, you'll have a good time. Frankly, though, I feel that Bomb has come along a little late in the game to make much of an impression.

Graphics: D
Gameplay: B+



Plaque Attack
by Activision for the 2600
Object

Awful jawfuls of junk food are causing scads of dental decay. Hamburgers—no doubt created in some other videogame—hotdogs, fries, ice cream, doughnuts, candy, and so forth assault the eight teeth in your mouth.

The teeth are arranged four on top, four on the bottom; your toothpaste-firing tube is located in the middle and can turn up or down.

Your job is twofold: to blast the food, and to do so as fast as you can. You are awarded points based on these factors, as well as how many teeth remain after each wave of foodstuffs.

You have unlimited dollops to squirt at the food, within the given time limit.

E.C.M.: Steve Cartwright, who designed this game, also created one of the games about which I am most passionate: *Megamania.* Thus, it's with heavy heart—and rotted teeth—that I must express my disappointment with *Plaque Attack.*

Cartwright gives his ranks of junk food the same wild, zigzagging motions which help make *Megamania* so appealing. But there really isn't enough room in the mouth to do the constant turning that's required. There's just too much going on. Cartwright was obviously trying to outdo himself, but failed to recognize that confusion isn't the way to one-up *Megamania.*

Plaque Attack is cute and busy, but nothing more.

Graphics: B
Gameplay: D

J.C.: My colleague misses the point of all that "clutter." Because the mouth *is* cramped, the player must choose her or his targets selectively: like *Missile Command,* you can't always hit every incoming object, so you must go for those which represent an immediate threat.

That's strategy, E.C., not confusion.

You're going to be paying very close attention when you play this game, since each time you switch from shooting down to firing up—and vice versa—you'll have to get your bearings anew. But it keeps the game fresh, which is more than can be said for most cartridges on the market.

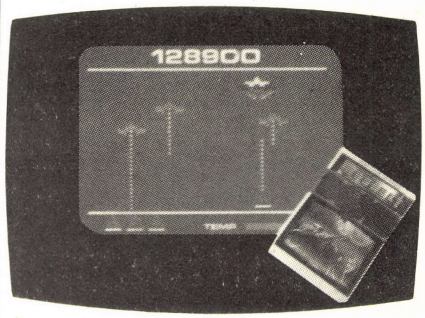
Actually, the only thing that put me off to *Plaque Attack* was the preachiness of the instructions. We're all for good dental hygiene, but Activision mounts a real drumbeating crusade at every turn. The constant reminders to brush are just a *little* contrived and goody two-shoes.

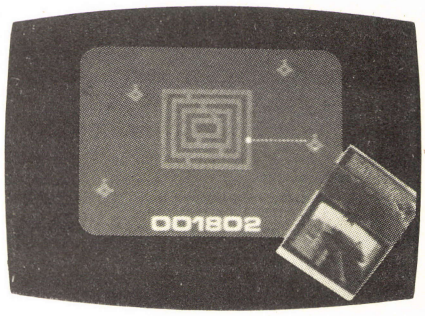
Graphics: B
Gameplay: B+

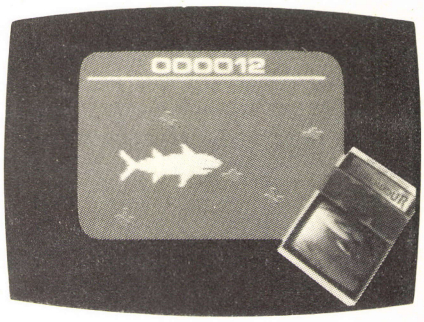
This game is an interesting varation on the slide and shoot format and it gives rise to the concomitant anxiety: are variations all we can expect from our most imaginative game design company?

It's Bomb!

A new videogame company has appeared out of the blue. It is an Asian firm called Bomb (did they receive the proper secondary translation for that word?) Their entry is *Z-Tack,* which is reviewed, left. Future offerings for the Atari 2600 will include (top to bottom): *Assault, Great Escape* (blasteroids), *Wall-Defender* and *Splendour.*







championship videogaming

Journey Escape

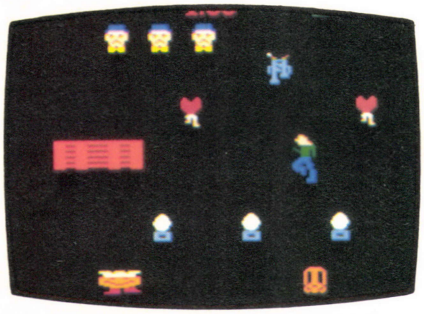
To the Editor:

Journey Escape is the first home game I ever "conquered." I don't know if that means the game is simple or if I'm a rock and roll animal. But I thought that, while I was gloating, I could be of some help to those less fortunate.

I take the game ski-style; I'm constantly grooving left and right. I always keep an eye out for the blue guys, the helpful road managers. You can't make it through the whole game without them.

Use the backwards movement sparingly, but use it. It helps save you when the mob is crowding you downward. And most importantly: use the timer and the sense of how you're doing to anticipate the arrival of the limo. If you miss it, you've blown it.

Howling Pooch
Miami, FL



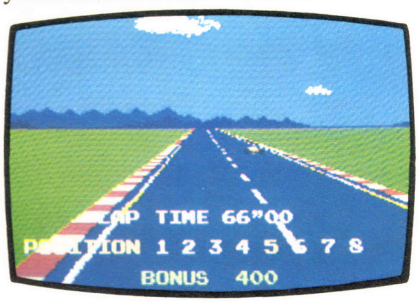
Pole Position

To the Editor:

Young players seem to have trouble with the gearshift on *Pole Position;* this is especially true if they are beginners with the game.

At the start of the game, or if you lose a car, shift the car into low gear, hit the accelerator, and when you have some momentum, then and only then shift into high gear.

Keep the accelerator floored except when approaching curves. Always stick to the inside of the track when going around corners to give yourself more room to steer.



And this one is right out of the pages of a real driver's manual: if you go into a skid, turn the steering wheel in the direction of the skid. This means that if the front of the car is veering left and the rear is swinging to the right, you steer to the *right.*

Ron Dellen
San Francisco, CA

Tempest

To the Editor:

In *Tempest,* if you have already used up a Super-Zap on any screen, remember that hitting the Super-Zap again will destroy at least *one* more alien—usually the one closest to you. Helpful when a Fuseball is on the rim.

Bev Carroll
New York, NY

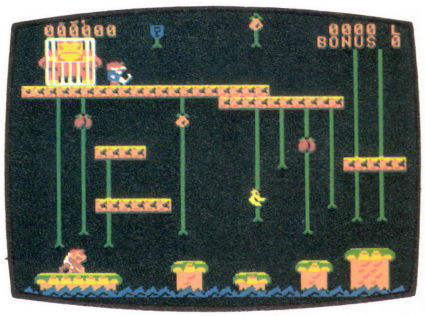
Donkey Kong Jr.

To the Editor:

A number of your readers have found "bugs" in *Donkey Kong Jr.* Here's one more.

On the jumpboard level, grab onto the long, swinging chain. Wait for the moving turf to go past you, then, when it comes back, slide down the chain really quickly so that you just hit the edge of the platform. You will see Junior stand in mid-air.

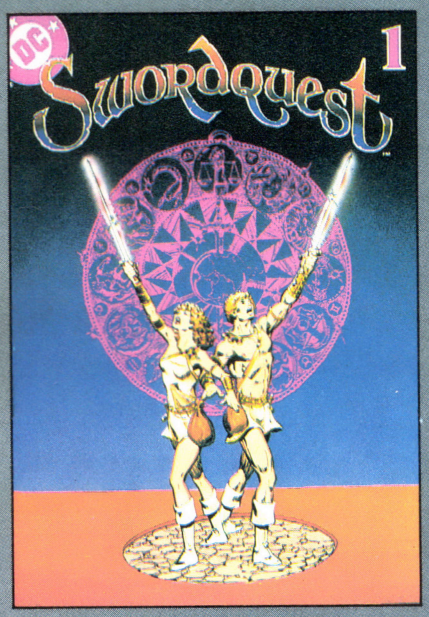
Tony DeSilvey
Sartinville, MS



Swordquest Earthworld Solution!

According to *Atari Age,* the Atari news magazine, eight videogamers submitted the correct solution to *Swordquest Earthworld* to Atari before the March 15 deadline. Those eight will compete for a $25,000 prize in California, and the winner of that contest will compete with the winners of the upcoming competitions, those involving *FireWorld, WaterWorld,* and *AirWorld.* The ultimate victor will walk off with a jewel encrusted sword worth $50,000 . . . and probably a migraine as well.

Following is the solution; those of you who are still struggling with the game (this means *you,* Steve Ungrey!) for love rather than money will not want to read further.



The poem held the crucial clue.

If the player correctly placed the enchanted objects in the corresponding zodiac rooms, a series of numeric clues revealed page numbers and panels in the DC comic book where the key words to the solution could be found. However, ten words in all were given and only five were needed for the correct solution.

To separate the wheat from the chaff, the player had to refer to the eight line poem on the first page of the comic. The poem was printed in brown ink except for two words in purple: "prime" and "number." A prime number is one which cannot be evenly divided by any number except itself and one: 3,5,7,11 etc. It is the prime numbered pages that hold the correct clues, which read "Quest in Tower Talisman Found."

PINBALL REBORN

Two Industry Insiders Fight For A Silver Ball Future.
Players Secrets! New Games Revealed!
By Richard Meyers

The rumors of the pinball machine's demise were greatly exaggerated. Just a few months ago, a collective wail went up among fans and designers alike. The game industry's manufacturers had lost all hope for the silver ball. From Soho down to Brighton, to borrow a lyric from The Who's "Pinball Wizard" song, not nearly enough people seemed to be playing. Some companies eliminated their pinball products completely, others cut back drastically. Two regrouped, reassessed and reattacked. In any case, the new pinball invasion has established a strong—and more importantly—profitable beachhead. "Absolutely," says Tom Neiman, both a pinball enthusiast and the Vice President/Director of Marketing for Bally/Midway. "There is increased activity and interest in pinball. . . in the whole 'non-video' line, in fact. Although they are in no position to knock videogames out of the dominant force position, these machines are beginning to make arcade waves again." Indeed, the videogame market is as full as ever, making it easy to term anything other than video, non-video. For a more complete definition of the term, however, we go to Jack Hubtka, an executive of what was once called D. Gottlieb and Company, now known as

Mylstar Electronics.

"It's an alternative to videogames," he explains. "It's all the alternate forms of arcade entertainment. You've got mechanical games, pinball, bowling games, shuffle alleys, mallet games, air hockey, and stuff like that. They all seem to be enjoying a resurgence in the marketplace."

The reasons why pinballs are coming back strong are varied, but not many. Both men have their own views on the subject.

"Number one," says Hubtka, "there are a lot of players who have never really seen pinball."

Neiman agrees. "It's funny. They may have stopped looking at pinball because they had already relegated them in their minds as 'old-fashioned.' "

"Number two," Hubtka continues, "videogames, it seems, have become a bit blase to a certain degree." That is something else upon which the two men can agree.

"As boredom overcame the player," Neiman mused, "because of a natural occurence of 'video burn-out' and a kind of 'technical status-quo' in videogames, their interest wandered and they searched their arcades for something new . . . at least new to them."

And as their eyes wandered, both Bally and Mylstar were ready with solid, entertaining, new pinball machines nearly guaranteed to please. And why were these games close to perfect? Ah, therein lies another secret of pinball's resurrection. For pinball had changed in the preceding period, as it desperately sought to compete with video. Hubtka reveals that the key lay in getting back to basics.

"For awhile there," he relates, "all the manufacturers got into making very complex pinball games—sometimes with three levels—and they were very intricate, very confusing, and very expensive. Part of the resurgence may stem from the fact that prices are much lower now. We've essentially been pulling old games out of the blueprint room and making a 'Deluxe' version of them, like our *Royal Flush Deluxe* game. So, due to the fact that there's much less engineering time involved, we are able to offer operators pinball machines at a much more competitive price than video is at presently."

***The first two-player pinball game was adapted from Williams' popular* Joust.**

Once again, the pinball competitors find themselves in total agreement. "Because you get generations of players," Neiman elaborates, "today's player hasn't seen games that are no more than eight, nine, ten years old. So you can go back, take a theme, take some of the best shots of that theme, update them, utilize the technology at hand, and put it out. And even the older people who played it a decade ago will want to be part of the rebirth action."

Mylstar not only produced its new *Royal Flush* and *Amazon Hunt,* their latest reworking of a previous machine, but also came up with the all new *Punk,* one of the most vital of the new pinballs. If gunched right, the player can practically compose on its musical targets. Bally, in the meantime, continues its winning ways by leaving the *Pac-Man* spin-offs behind for more traditional fare—classic concepts enhanced with truly clever new gimmicks.

"Remember," Neiman reminds, "*Baby Pac-Man* tried to incorporate the best of both worlds—a little video and a little pinball—and I think that began to introduce non-video products to what had previously been pure video players." Waiting to entertain these new pinball fans were such machines as *Speak Easy,* with its casino motif, *Grand Slam,* a baseball/silver ball game, and *Gold Ball,* the imaginative sequel to their *Silverball* machine of several years back.

"They are really a repackaging of a lot of classic concepts with some added features," Neiman describes. "*Speak Easy* has a roulette wheel with bonus points, and add or loss ball slots in it. *Grand Slam* has what we call 'flyaway targets' and what you call 'hanging flag' targets, which makes a better use of the limited pinball board space (flyaway targets hang just above the playfield)."

"*Gold Ball* is another basic, skill-oriented machine, but has the added feature of a special gold ball—actually a brass or bronzed ball—which appears at a designated percentage point that the operator sets. It randomly kicks in at a preset percentage, be it fifteen percent of all balls played or whatever. You're not guaranteed of getting it every game, so it's a good incentive to keep playing. Because every time it appears, all target values increase three times."

Both companies are devoted to pinball and dedicated to keeping it alive and well. "Any product with that kind of longevity and the ability to adapt to the current marketplace and technology still has what it takes," Neiman maintains. "We got to where we are on the strength of pinball," he vows, "and we stayed with it during the leanest of days. Believe me, we won't abandon it."

Thankfully, pinball's cadre of dedicated players are just as voracious in pumping in quarters as Neiman is in defending his product. It is they who will keep pinball alive. "What the pinball player seems to want," Jack Hubtka summarizes, "is something simple and classic. If that satisfies them and you can do it inexpensively, then you're still in business."

conquering

Williams' *SiniStar*, like *Robotron 2084* and *Mad Planets*, should be on the Weight Watchers program. The action becomes so intense you could lose a few pounds just from playing a game or two.

Nevertheless, *SiniStar* is worth laboring over. It redefines Williams' position as the Number One manufacturer of coin-op games with a difference. It's fun to play but difficult to master.

The player is in charge of piloting a starship through deep space, mining crystals in order to build sinibombs which must be used to defeat the SiniStar itself.

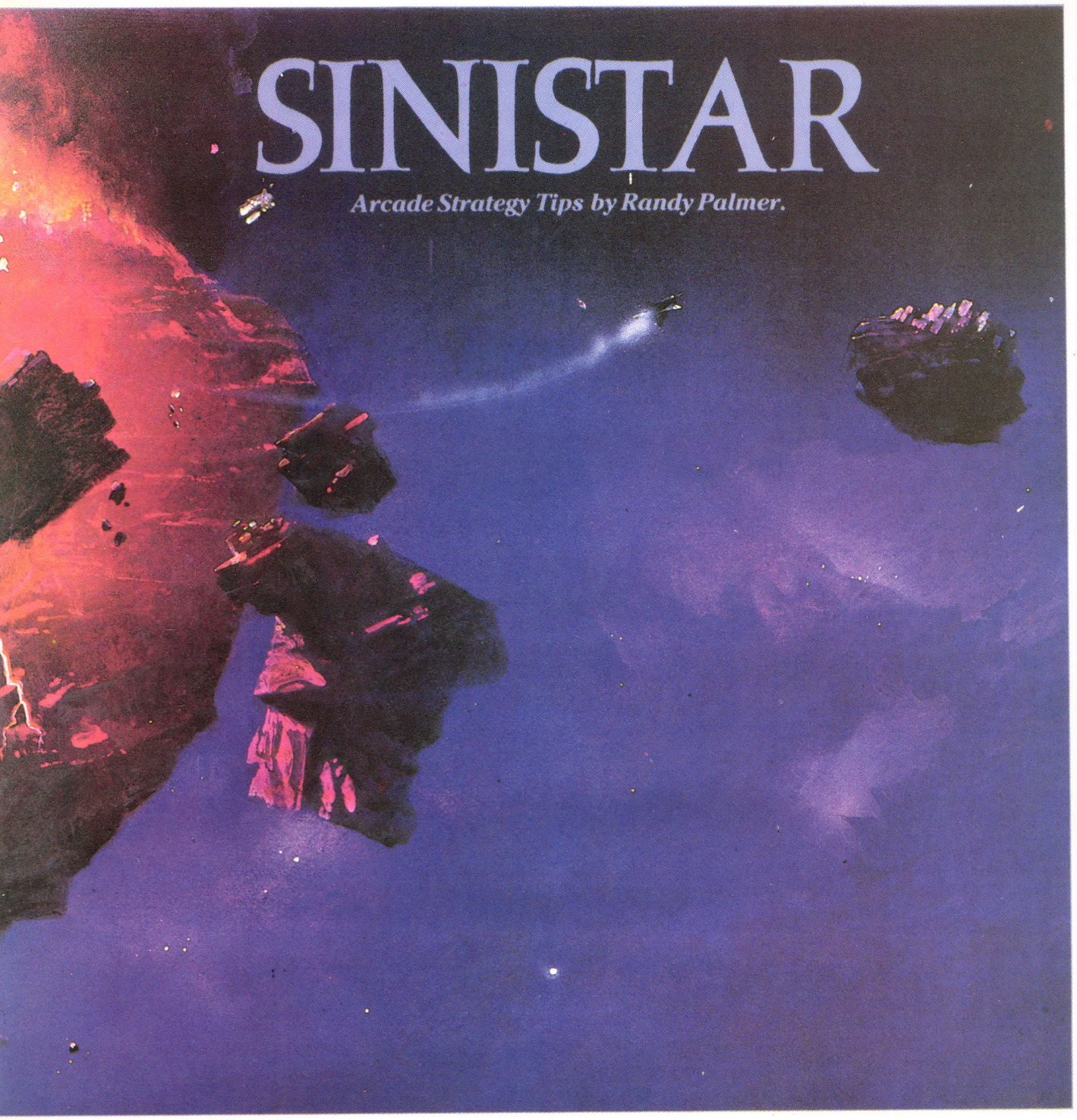
A multi-directional joystick enables the player's ship to spin in loops, fly along straight or curved paths, and make incredible u-turns. Firepower is unlimited, but a storage of sinibombs can be depleted rapidly. Players should let their first and second fingers work the firepower button, allowing the outstretched thumb to hover over the sinibomb activator. This is necessary since some situations in *SiniStar* call for the use of firepower in conjunction with detonation of Sinibombs.

Above the main video screen is a scanner, or radar-like device which permits viewing of the space "outside" of the main screen. The central border on the scanner is, of course, representative of the main screen.

The player must get in the habit of

SINISTAR

Arcade Strategy Tips by Randy Palmer.



glancing up periodically to determine exactly where the SiniStar itself is lurking. Unwillingness or inability to do so will often result in the premature end of one game life. Of course, the scanner also shows where the deepest concentration of planetoids lies. SiniStar appears yellow on the scanner, so players can assess where the biomechanical creature is at any given moment without having to lose concentration.

When play commences, dozens of small, red beings begin to assemble the SiniStar. These are the Workers. Workers may buzz around the player's ship and even brush against it without causing any damage. They will not shoot at the player, and are easy targets at one hundred fifty points a piece. However, Workers are not top priority.

The players primary responsibility is to mine crystals from the planetoids. Therefore, when the game begins, the player should look at the scanner to see where the highest concentration of planetoids is and pilot the ship toward them.

The nose of the ship should be brought into contact with a planetoid in order to mine crystals in the most effective way. Once ship and planetoid are touching, constant pressure on the fire button will chip away crystals. These crystals must then be picked up by running the ship over them. Each crystal thus mined is worth two hundred points.

As soon as a few crystals are loosened, back away from the planetoid and scoop them up. The busy Workers will be clustered around the player, picking up stray crystals the player has missed. When this happens, aim the ship at the Worker thief and fire. The Worker will evaporate but the crystal will be left behind and the player can then move to pick it up.

The larger a planetoid is, the more crystals can be mined from it. When a planetoid has no more crystals to offer, it will explode, awarding the player fifty points. Exploding planetoids purposely is a waste of time and energy. Players should just go for the crystals and not worry about collecting a negligible amount of points.

For each crystal gathered, the player receives one sinibomb. Twenty sinibombs is the maximum number a player may retain. Continuing to mine crystals once the twenty sinibombs are collected will result in an increase in points but no change in the sinibomb count.

While the Workers are harmless, the same cannot be said for the dreaded Warriors. Warriors are equipped with a cannon that boasts deadly accuracy. When one or more Warriors enter the playfield, the player should dispatch them without delay, even if it means losing crystals to Workers.

To destroy a Warrior, pilot the ship in an arc around it, and fire when a clear shot presents itself. By flying *around* the Warrior, the player causes the Warrior's cannon to reposition itself again and again, thus making it difficult for the Warrior to draw a bead on the player's ship.

When beseiged by several Warriors at once, take the ship into a loop and hold down the fire button for rapid fire. This results in a machine-gun effect, cutting across the line of Warriors with relative ease. Warriors are worth five hundred points each.

Sneaky Warriors will sometimes "hide" within a cluster of planetoids. Being grayish in color, they are difficult to see when hiding in this manner, so players should enter clusters of planetoids with some caution. Naturally, when a hiding Warrior is spotted, it should be taken out before work begins on the mining of crystals.

The SiniStar creature is complete when it has accumulated thirteen pieces. Once assembled, the player should move to destroy it without delay; otherwise the monster will rush the player's ship.

The SiniStar voice will sound once all thirteen pieces have been grouped together. Players should immediately look at the scanner to determine where the creature is. Although it is not necessary for Sinistar to show up on the main screen in order for the player to defeat it, it must at least be present on the scanner. By changing the course of the ship's flight, players can keep SiniStar within the boundaries of the scanner when closing in for the kill.

In addition to some compelling graphics,* SiniStar *features some of the best sound effects ever created for an arcade game.

The sinibombs will automatically gravitate to SiniStar. A total of at least thirteen sinibombs must be released in order to kill the star-demon (one bomb for each SiniStar piece). The bombs should be released rapidly so they will completely annihilate SiniStar before it has a chance to rush the ship. At the same

time, however, the player should continue firing at the enemy Warriors and Workers, not only to gain points, but also because the Warriors can destroy the ship even as SiniStar itself is being destroyed piece by piece.

Once SiniStar has been defeated, a congratulatory message is flashed across the screen, and the player is whisked away to another section of the universe to resume the battle on a higher difficulty level. Naturally it is to the player's advantage to carry over as many sinibombs as possible from the previous level. This is why it becomes important to either count off the number of sinibombs released (holding the total to thirteen) or keep a visual check on the number of sinibombs remaining.

Seasoned players may want to rack up points by killing off pieces of SiniStar before the total reaches thirteen. Before SiniStar is fully assembled, the player's ship can touch any

piece without fear of reprisal. Release one sinibomb for each piece, then fly off to another cluster of planetoids to restock sinibombs.

A word of caution: destroying SiniStar pieces (five hundred points each) before the metalloid monster is assembled will result in more Warriors entering play, thus making it more difficult for the player to mine crystals. Master the art of destroying tangles of Warriors in one fell swoop (loop-and-fire) before stirring up trouble in this fashion.

BUBBLES

Despite the simplicity of the game's controls (one multi-directional joystick), the unique play of *Bubbles* makes for a difficult adjustment period. Players must learn to skillfully "steer" the Bubble around the slippery sink.

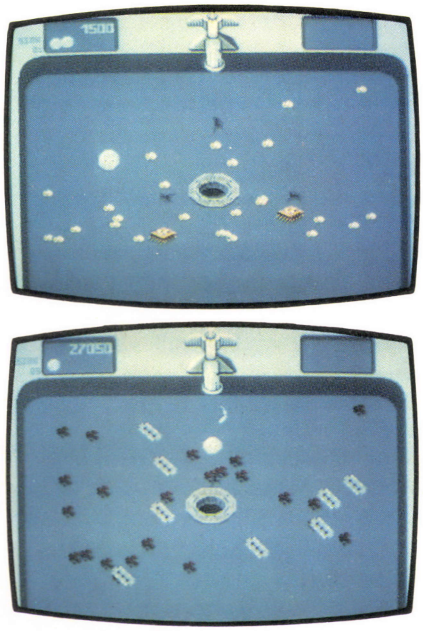
Keep in mind that the Bubble will consistently slide; compensate for its forward motion by handling the joystick delicately, except when on the perimeter of the sink.

Go for clusters of Crumbs before they sink. When among a cluster, shift the joystick back-and-forth, thus causing the Bubble to envelop the cluster. Then move on to another cluster. Save stray Crumbs until last.

Most Ants—which crawl up out of the drain—can be picked up along the edges of the sink, where a fast sliding motion is possible.

The large Roaches can only be killed when the Bubble has the broom which is obtainable only from the Cleaning Lady. The Cleaning Lady wipes away the Crumbs and Greasies (clover-shaped blotches), thus robbing the player of points. Move to absorb the Cleaning Lady as soon as she appears. To pick up her broom, you must absorb her *broom first.* A Roach can still destroy the Bubble even if it has the broom. The player must touch the Roach with the broom *only,* not any other part of the Bubble.

As the Bubble eats Crumbs, Ants and Greasies, it grows larger, first developing eyes, then a mouth. When the mouth is smiling, the player can knock away the Sponges without harm. A number of Sponges can be bounced away at one time if they are grouped together. Absorb points (Crumbs et al) in the infected Sponge area once they have been



Game designers seem capable of creating contests based on any theme . . . including the proverbial kitchen sink.

bounced away.

Watch the Bubble's smile, however. Once a Sponge(s) has been bounced away, the smile will disappear and the Sponge is lethal once more.

The Bubble can also dive through the sink drain when the drain is flashing green. But unless the Bubble is large enough (with eyes and mouth), the player will lose one game life as the machine flashes "Oops! Bubble too Small!" Be sure your Bubble has absorbed enough Crumbs, Greasies and Ants to survive a plummet through the drain pipe before attempting to escape from pursuers.

BAGMAN

Bagman is not a game of reflexes but of wit. With the joystick and action button (which controls a multitude of functions) the player must maneuver the Bagman to loot bags of gold hidden in the recesses of a horizontally-positioned three-screen layout and dump them in a wheelbarrow located at the top of the playfield.

There is a timer which begins at four thousand points and runs to zero fairly rapidly. The Bagman must deposit one bag of gold in the wheel-barrow before the timer reaches zero or suffer a quick death. (Each bag of gold so deposited resets the timer to its maximum.)

First move for a relatively easy bag of gold. Bring it to the top and place it alongside the wheelbarrow (don't put it in). Then proceed to pick up others.

Move each gold bag up one or two levels. When the timer nears the cut-off point, return to the surface and deposit the first bag of gold in the wheelbarrow to to reset the timer.

You can walk or ride a coal car to another screen. Just make sure to jump out of the coal car (by using the joystick, not the action button) in the direction *opposite* its travel (otherwise you'll get run over). The

Bagman can carry a gold sack or a pickaxe with him on the car.

Dropping a gold sack on a Guard in pursuit will knock the Guard out cold—momentarily. Moving the wheelbarrow over a vertical shaft as a Guard is in pursuit will cause the Guard to plummet to the bottom when his head touches the wheelbarrow. Two Guards can be knocked out at once if they are run over by the coal car when the Bagman is inside *carrying a pickaxe.*

Take the Wheelbarrow with you whenever you move the Bagman to a different screen, in order to have it ready for the gold bags. It can

become quite infuriating to watch the timer run out as the Bagman carries a sack of gold from one screen to another, trying to beat the the clock to the wheelbarrow—and failing.

ZOOKEEPER

The player controls the movement of Zeke the Zoo-keeper with a joystick and jump control button. Begin the game with the joystick already engaged in order to make Zeke build the wall around the zoo animals without delay.

Some animals will inevitably eat their way out of the enclosure, no matter how quickly the bricks are

placed. Keep one hand poised over the jump button at all times. Once an animal has escaped, it must be avoided by jumping over it. The length of any jump can be determined by using the joystick. To make a long jump, keep the joystick pressed toward the direction of travel. To shorten a jump, push the joystick in the direction opposite of travel while Zeke is in mid-air.

When two animals are travelling in the same direction close together, Zeke can clear both with a single jump. Animals spread farther apart, however, usually require two short jumps rather than one long one.

Each brick screen is "timed" by a burning fuse located above the brick wall. As the fuse burns down to each bonus object, that object will appear along the edges of the brick wall for a brief period. Since the majority of game points are accumulated by keeping as many animals as possible inside the wall, only move to pick up bonus objects if the wall is fairly secure.

Watch for the fuse to burn down to the Net. When it does, move immediately to pick up the Net from wherever it appears along the wall. Once Zeke has the Net, any animals he runs into are automatically captured and tossed into the center of the zoo. (Don't jump when Zeke posesses the Net.) Change directions often to capture as many escaped animals as possible. The Net will vanish after a few moments, however, and the player must be ready to jump over any animals that have escaped capture. Touching any

Aim is relatively easy in comparison to maneuverability in Gyruss, with its eight-directional joystick control.

animal when Zeke does not have the Net consumes one game life.

An accumulation of animals in one corner of the zoo will mean rapid depletion of bricks. Seal in animal clusters by shifting the joystick right and left repeatedly, thereby causing Zeke to build up a hefty amount of brick layers in the threatened section.

On the moving ledge screen, Zeke must rescue his girlfriend Zelda from the top of the screen. The coconuts thrown by the monkey are lethal to Zeke and must be avoided. All other objects are worth bonus points.

Move Zeke to the top ledge as quickly as possible. The longer he takes to reach the top, the more coconuts are thrown by the monkey. Use the jump button to move Zeke from one ledge to the next. Your best bet is to use a right-left pattern to get Zeke to the top of the ledge screen as quickly as possible. Avoid getting trapped along the edges of the screen where Zeke can easily fall through the gaps and plummet to his death. Try to keep him as close to the center of the screen as possible.

Each future ledge screen moves faster, until the ledges finally become invisible. At that point, there are only the deadly coconuts and bonus objects to be used as a guide. Learn a pattern (such as the simple right-left) and stay with it.

GYRUSS

Gyruss' eight-directional joystick allows players to maneuver their spacecraft in a full three hundred sixty degree "circle" around the perimeter of the screen.

This unique feature necessitates a brief orientation period for most players. Since aim is relatively easy in comparison to maneuverability in *Gyruss,* use the first level to become familiar with the way the joystick operates.

The yellow bombs hurled by enemy ships from the center of the screen are easy to identify. Fire at the ships even while a bomb may be plummeting toward you. The bombs can be ducked at the last moment.

Continued on pg. 65

My First Computer Language

Or Real Programmers Don't Use BASIC

by Martin Levitan

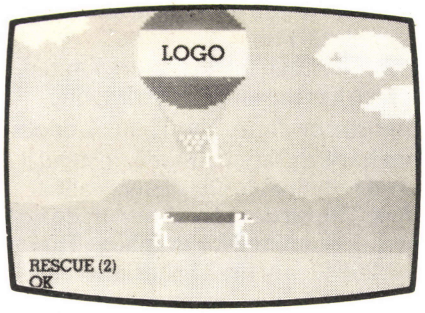
Would you be surprised if you were told that one of the best languages for learning about computers was called LOGO? Many people are. Many people have never heard of the dozen year old language called LOGO. There is a great misconception that the only real computer language for beginners is BASIC. After all, BASIC is the language that all home computers are shipped with, which does give it a bit of a head start.

The following pages present a practical introduction to the LOGO language. We will briefly explore its value in computer education and what Apple, Texas Instruments, and TRS-80 Color Computer versions look like.

DARK AGES

When computing was young in the 1960s, computers were very expensive, the most expensive part often being the memory. So early computers did not have much memory and computer languages were designed which used memory very sparingly. Since the languages were kept simple for the computer, they were often cumbersome for the programmer

The languages of the 1960s flourished with the personal computers of the 1970s. Although cost was no longer as big a problem, early personal computers still did not have very much memory. The concept that a language which is simple for the computer should also be simple for people pushed languages like BASIC with its limited set of primitive commands to the forefront. The rationale followed that the cumbersome features of a language actually had advantages. "If it's too easy to edit programs, you won't write them carefully in the first place." Educators exploring the potential uses of computers often accepted the drawbacks of these languages as an integral part of programming.



Mattel's Aquarius LOGO program.

THE ENLIGHTENMENT

The developers of LOGO had a better idea. They felt that a computer language could be both simple and powerful at the same time. The slogan of the LOGO movement is "LOGO is a language for learning," meaning that LOGO is a language for learning programming.

The LOGO language was created for children. Although it had to be simple to learn, it needed a rich and easily expandable vocabulary. It had to reflect some of the important concepts of computer science, such as procedurization, local and global variables, naming, self-referential programming (recursion), etc. These are attributes that a language such as BASIC does not possess.

BASIC has a reputation for being easy to learn; it has a small vocabulary of key words. But the initial set of key words is not expandable; the programmer cannot create new key words. This makes BASIC easy to learn but hard to use. The programmer cannot build procedures, name them, and then use them to build other procedures. The powerful problem-solving strategy of breaking problems into smaller and smaller parts can only be done on paper and not in BASIC programming.

The grand design behind LOGO is to teach one how to think. Though its roots are firmly based in computer science research, especially artificial intelligence, it is also rooted in Jean Piaget's research into how children develop thinking skills.

In writing a LOGO program, you start out with a series of tasks you want it to do. Then you explain to the machine what it means to do each of the tasks. Once you have taught the computer a task you can ask it to repeat that task in combination with other tasks.

Say the computer was a small child. You would like to program it to dress itself. This is a complex task which is made up of a variety of special skills the child must acquire. The program for DRESSING would include the following procedures: SHOES.ON, PANTS.ON, SHIRT.ON and these procedures would breakdown further. SHOES would include TIE.SHOELACES, FEET.IN.SHOES. PANTS might include ZIP, BUCKLE, and BUTTON. At the lowest level a task like BUTTON is non-specific to SHIRT.ON, COAT.ON, or PANTS.ON. It is a subtask which describes a skill that can be repeated over and over again. That is the way we learn. We take all the small skills we acquire over our life and assemble them to meet new tasks and challenges. The object of the LOGO world is to teach a way of thinking that will help people make the transition from one experience to the next using the knowledge and skills acquired along the way.

PROGRAMMING

Real programmers don't use

BASIC. They don't use LOGO either, but LOGO is a lot closer to real programming in form and structure than BASIC.

It has been pointed out that in a certain sense, all programming languages are the same. That is, if you can solve a problem in one language, you can solve it in another—somehow. What makes languages different is that some types of problems are easier to solve in one language than in another. Programming projects for any non-trivial purpose are rarely written in one large program. Instead, the problem is divided into small, manageable pieces, and a separate program or procedure is written for each piece. This is true of LOGO and most modern computer languages. Pascal, APL, LISP, C and even FORTRAN permit the division of a program into independent procedures. The key term here is independent.

LOGO CHOICES

The five main versions of LOGO are written for the Apple, TI-99/4A and the TRS-80 Color Computer. There are other implementations of the language for Commodore. The Apple versions include Apple Logo, Krell Logo, and Terrapin Logo. Logo for Texas Instruments is called TI Logo. The Radio Shack version is called Color Logo. Each version has particular capabilities not shared among the others.

First, we should examine the common features of the LOGO languages that are shared by Apple, Terrapin/Krell, and TI Logo.

The central tool of LOGO is the turtle. The turtle, a triangular object, is displayed on the screen. It can be moved about on the screen with simple commands (like FORWARD 50, PENUP, PENDOWN, LEFT 90). As the turtle follows your commands it traces a line on the screen.

Terrapin, Krell and Apple Logo use the Apple high-resolution screen to display the turtle's drawings. All the Apple versions can draw using the six colors available on the Apple II (black, white, green, violet, orange, and blue). They also use a reverse screen mode. The Apple Logo turtle can also use a pencolor that matches the color of the background which is suitably named ERASE. The Apple II has a separate text and graphics screen. The various Logos for Apple can all be toggled between text and graphics or use the mixed text and graphics screen.

The TI Logo turtle is more limited. It restricts the amount of drawing that can be done. The TI-99/4A does not have a graphics mode. Instead it used redefinable characters called tiles. The turtle draws lines made up of tiles redefined for graphics. There are 256 tiles in the TI character set. Of these characters, 64 are used for alphanumeric. The remainder, 192, can be redefined into graphic characters. A high resolution image could well use more than the 192 available tiles. The limitation is offset by the availability of "sprites". All four LOGOs have a full complement of Turtle commands.

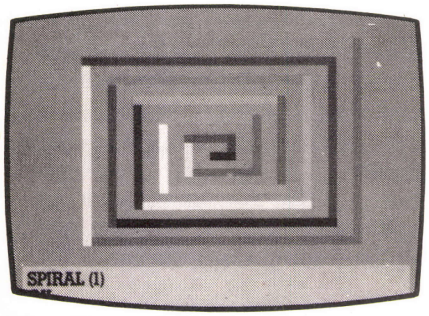
Remembering its heritage as an offshoot of the powerful list processing language called LISP, another feature of LOGO is a set of list-manipulating words. While much of the public image of LOGO is caught up in the educational graphics side of the language, it also is quite powerful for list processing tasks. LOGO can quite easily deal with the problems like mail-lists and sorting of word lists and other simple data base applications. Apple Logo and Terrapin/Krell Logo are roughly equal in their list processing abilities, but TI Logo has some definite deficiencies. TRS-80 Color Logo is another story altogether and will be addressed separately.

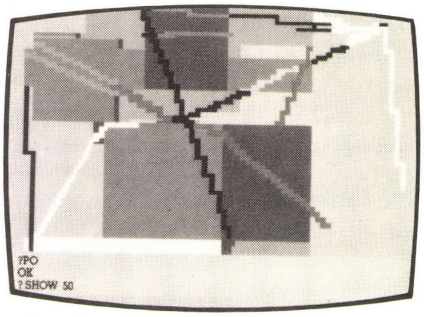
All of the LOGOs have some number processing capabilities. TI and Color Logos are limited to integer arithmetic. Apple, Terrapin and Krell Logos use both integers and floating point numbers. In fact the Apple Logos are as useful for arithmetic computations as BASIC. They use the four arithmetic operators, sine, cosine, and arctangent functions, rounding and truncating functions, and a square root function.

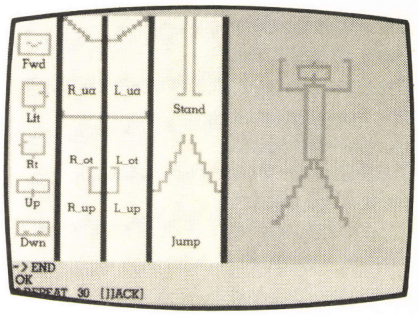
They all have editors that permit you to create and edit LOGO programs. Although there is some difference in the placement of the function keys, Apple, Krell and Terrapin Logo are very similar. Apple Logo has a feature design for young children that permits them to type a procedure a line at a time. The TI and TRS-80 versions have less sophisticated editors. The editors are all easy to learn.

APPLE LOGO

Apple Logo has some powerful programming features. "Package-related commands" allow you to group a set of related procedures into one name. This group can then be manipulated by name; it can be saved, erased or hidden in LOGO. By burying them, they don't show up in any workspace listing and can't be erased accidentally. Using packages makes workspace manipulation much easier. Apple version has a STARTUP file which allows you to create a "turnkey" system. A LOGO file with the name STARTUP is always the first file loaded into your LOGO workspace when the data disk is booted. If a variable has the name STARTUP and is a list, that list is executed first after the file has been read in. In this way a LOGO program can be automatically loaded and run when the system is booted.







Mattel's new low-cost computer, the Aquarius, has built-in Microsoft BASIC. The system also offers a LOGO program which teaches the child the logic of computer programming, graphics, and math while giving immediate feedback.

"Property lists" are lists of characteristics that can be associated with a given LOGO variable. A geometric shape could be defined with two properties: NUM.OF.SIDES and INTERIOR.ANGLE. Assigning values to the two properties would produce a variety of polygons. Using the name SQUARE as an example, you would first create a property list associated with SQUARE. The list would include the properties and their associated values (e.g. NUM.OF.SIDES 4, INTERIOR.ANGLE 90). The name SQUARE can be either a variable with a value or a procedure with a definition. The property list is not the same as the word itself. This can be very useful for certain list-manipulating applications. In many languages endless hours are spent formulating ways to trick the processor into permitting this kind of dichotomy.

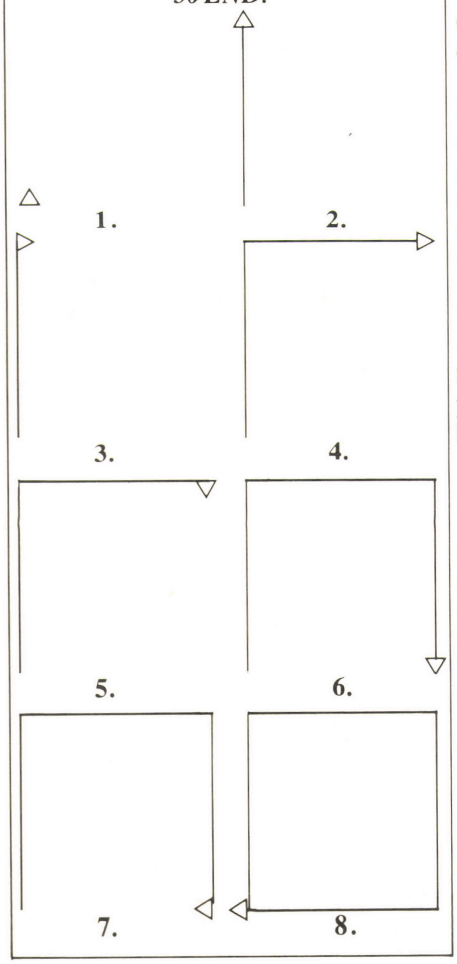
Error trapping is always a problem in programming. One does not want the program to crash just because the data has been miskeyed. This LOGO has two functions, CATCH and THROW, which can allow the program to intercept a LOGO error and substitute a response that allows it to recover from specific errors instead of ending.

Apple Logo contains other useful commands not found in the other Logos. COUNT returns the number of items in a list. ITEM returns the nth item of a list. A number of logical operators return the values TRUE and FALSE.

Several other features should be mentioned. Apple Logo permits the specification of local variables. Generally, any variable that is declared has the same value within any procedure in the program. The LOCAL statement restricts the value to its own procedure and any procedure that uses it. This localization often helps prevent hard to find program errors resulting from unplanned interactions among variables.

The single most annoying omission of Apple Logo is the inability to put comments within the program. Good programming practice, which LOGO is supposed to teach, demands well documented and commented programs. To be fair, there is a way around this noticeable lapse. A procedure can be specified that is not actually used in the program; it can contain any comments required.

To build a square in LOGO: 1. (turtle at start). 2. FORWARD 50 3. RIGHT 90 4. FORWARD 50 5. RIGHT 90 6. FORWARD 50 7. RIGHT 90 8. FORWARD 50 END.



The cost is penalties on program size and speed.

A sprite board such as found in the TI would make this a very good package.

KRELL/TERRAPIN LOGO

These two language implementations are versions of the MIT logo, developed at the Massachusetts Institute of Technology. They are the same language. The differences are in the materials and programs provided with each version. Where Apple Logo is delivered as a sealed package, protected from tinkering, KRELL/TERRAPIN Logos are more oriented to the knowledgeable user. The STARTUP feature, buried packages and the necessity of deleting a disk file before it can be resaved under the same name make Apple Logo user proof. Krell/Terrapin Logos are designed to allow more tinkering by the user.

KRELL/TERRAPIN Logo has programming debugging commands. TRACE causes LOGO to execute a procedure one line at a time. This is a function whose absence makes a big difference. These Logos can also address Apple DOS commands and use an assembler.

Krell/Terrapin Logo is well done. It has a number of advantages. It has a Utility disk with many useful programs, a 6502 assembler, and the ability to interface LOGO with assembly-language subroutines. The most outstanding feature is the debugging routine. Its editor and error messages are better than those in Apple Logo, but then editor and error messages of all the Logo implementations are better than those in any BASIC.

TI LOGO

TI Logo was developed with the cooperation of MIT. It is not as similar to the Apple based Logos as they are to each other. Although there are a number of serious flaws in the TI implementation of LOGO, it does have one feature that uses the inherent graphics capability of the TI, "Sprites". They are colored video images that are built into the TI 99/4A circuitry. There are thirty two of them; they can be given shape, color, position on the screen, and work as overlays on the normal background. There is an internal hierarchy that is evident when they overlap. They can be given direction commands just as the turtle can. Sprites can move at a given speed without affecting the speed of the program. They appear to operate independently, moving even when there is no program running. The secret is they are controlled by their own independent processor. The only thing they can't do is draw lines.

COLOR LOGO

TRS-80 Color Logo is radically different from the other LOGOs. It was developed without the influence of the MIT Logo group. It is limited to turtle graphics. In other words, it does not support any of the string or list manipulating features found in the other implementations. All you can do outside of the turtle graphics is print a character string or number at the current location of the turtle.

Color Logo has four modes allowing editing, doodling and program execution.

Sherwood Forest
Phoenix Software
Apple II

Amnesia is the oldest trick in the book; TV shows and pulp novels use that time-worn ailment weekly to pump new life into a series that is withering on the vine. Now amnesia is creeping into computer software adventure games. Have matters grown this desperate, this quickly?

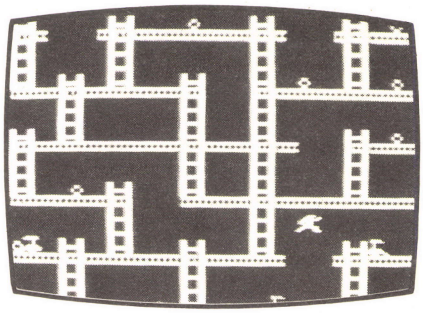
In *Sherwood Forest,* from Phoenix Software, Robin Van Winkle, er, Robin Hood awakes from a long nap, stricken with amnesia. It must have been something he and the Merry Men ate, because they do not recognize Robin without his green suit.

The object of the game is to find a new green suit and to rescue Maid Marian. Though it sounds very simple (and silly, the way we have characterized it) the game is quite complex. There are many slighter tasks to complete, a series of beautifully rendered characters to meet judge (including a shifty-eyed taxman, a destitute beggar and the jolly Little John), and landscapes to cross (including Sherwood Forest, a cavern labyrinth and the open sea). The instructions for the game are quite specific and helpful in many cases. One hint: don't be afraid to try an idea again even if it didn't work the first time. A subsequent action might make the command work the second time around. This includes returning to locations that yielded nothing the first time around or reapplying an object that seemed useless in another situation. The creators of these games must have devious minds indeed to come up with the twists and turns they layer in.

The game is subtitled Softoon # 1, which implies a series of games. We hope this is so. The animation in this game is magnificent, and the scenes fill in as they appear (as opposed to filling in one color at a time) so that the adventure's pace is that of an adventure: *fast!*

A colorful and challenging game. We can't remember when we had such a good time. Could it be amnesia?

—Barbara & Jeff Wainhause



Jumpman, ***which was designed by Randy Glover, was selected as the best game in the "arcade-type" category for the Consumer Electronics Show Software Showcase exhibit. Well deserved too.***

Jumpman
Epyx
Atari 800

The player who dares to take the role of Jupiter Jumpman will have his or her hands full with this assignment: collect and defuse a series of bombs that have been planted by the insidious Alienators throughout Jupiter Headquarters.

Beware. The Alienators are not content to plant bombs and flee. They're still lurking about, shooting at you, placing obstacles in the way, and arranging girders to collapse beneath your feet.

Beware. There are thirty levels to this game. The last few are for champions and obsesses gameplayers only. Although there are four game settings, the easiest setting is plenty challenging.

The graphics of this Epyx game are more than serviceable: they're crisp and witty. You'll grow fond of Jumpman. Even when the game is at its most frustrating, when Jumpman takes a fall, the comic nature of the plummet will leave you smiling. The menaces—robots and bats and dragons—are also more amusing then ominous.

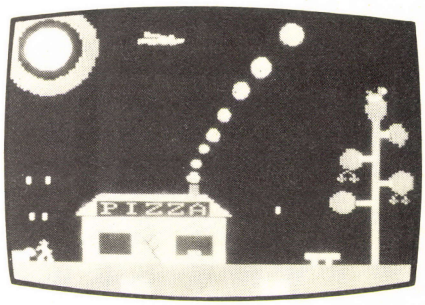
Jumpman has arcade quality graphics, arcade quality frantic gameplay, and a sense of humor. *Perfecto!*

—Dan Hallassey

THE ARCADE MACHINE
Broderbund Software
Apple II

So! You have a secret desire to create exciting, animated, fast-paced arcade games, but you don't have any background or experience in programming.

Don't despair! *The Arcade Machine,* by Chris Jochumson and Doug Carlston, is very user friendly and allows you to custom-design your own arcade games and to learn how graphic, "shoot-em-up" games are constructed. The program's documentation is very good. It guides the user step-by-step through the arcade game design and customizing processes. The manual includes layout sheets for practice in creating and designing games that are unique.

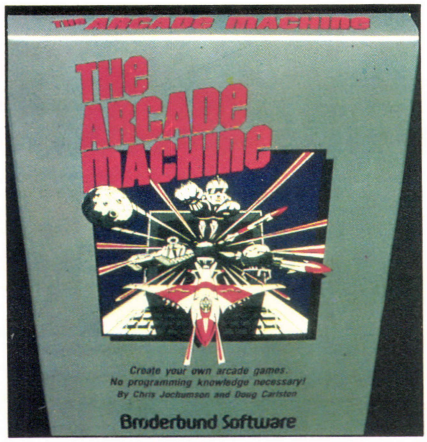


A new wave of creative arcade games is heralded by **The Arcade Machine.**

The Arcade Machine is menu driven. The main menu contains eight selections, each of which contains other submenus. These are the main selections:

1. Shape Creator. The shape creator allows the user to design and animate all of the moving objects in the game, decide how many shapes to use, and what size they will be. Shapes may also be referred to as aliens or the enemy and are the objects that are not controlled by the players. The players do have control over the objects known as tanks. The user can create as many as twenty-four different enemy shapes on the screen. For ease of reference, blocks (or one of four areas of designated memory) are used to contain and save shapes. The user can draw shapes in four colors as well as black and white. The shape creator also permits the rendering of explosions and tanks. Drawing with a keyboard controlled cursor one dot at a time, objects can be animated as they move across the screen.

2. The Path Creator. The path



The Arcade Machine, ***along with*** **David's Midnight Magic,** ***is a do-it-yourself game.***

creator allows the user to control the movements of objects and specific functions such as positions at which the objects start bombing or change speed. Since the path creator is the most complicated part of the program, it is very important to keep track of the various movements. Ten different paths can be programmed. Each object follows a particular path, and there are conditional jumps that allow an object to jump from path to path. Shapes can be instructed to change shape when they reach a particular point in a path or drop a bomb in a particular direction. Path editing is as simple as a few keystrokes. I suggest making copies of the layout sheets provided so you can keep track of simultaneous activities.

3. Game Options. This is a collection of utilities that allow the user to set up a variety of different games. How many players? (Two player games can't have joystick movement.) Number of tanks to start the game? Number of barriers? Sound effects for missiles being fired or tanks exploding? The user can also set time limits, barriers on the screen bottom that will erode when struck, and all kinds of gymnastics and delays for the bombs. How many points for the destruction of a shape?

4. Level Options. There are five levels built into all the games created on the *The Arcade Machine.* the player moves from one level to the next when all the shapes on a level are destroyed. Do you want the score to increase at each level? Should the objects speed up at the end? Do you want smart bombs? The user can choose values that control star movement, speed, density; tank speed, movement limits, accuracy; and background interactions with the missiles.

5. Background/Title Creator. The user can add his/her name to the title page!

6. Load/Save Game. The user can load one of the five sample games found on the flip side of *The Arcade Machine* diskette, or save some or all of his/her "creations."

7. Create Game Disk. The user can make copies of finished masterpieces.

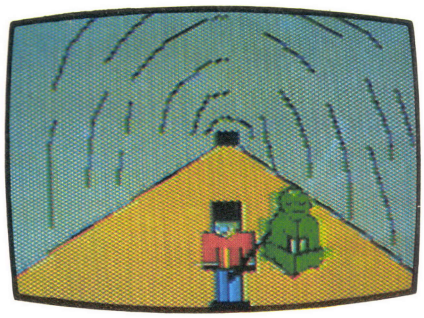
8. Run Game. Test your efforts at almost any point. Running the game lets you see how things are progressing.

Designing or customizing any game requires paying attention to details. *The Arcade Machine* offers valuable insight into how a game is designed.

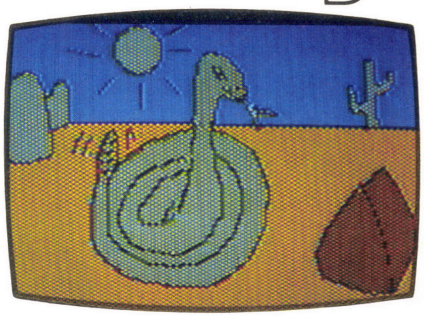
This detailed description of the program will serve as an endorsement to those interested in creating endless variations of a certain type of arcade game. It is a unique and worthwhile purchase.

The Wizard and the Princess
Sierra On-Line
Apple II/II+

The object of this "high-res" game is straightforward: rescue the princess from the clutches of the evil wizard. Fortunately, the solutions to the many problems and obstacles that confront the player are not so clearcut; heavy doses of imagination and some wild guessing will be needed to work this game to its conclusion.



Sierra On-Line's graphics are like a fashion model . . . beautiful but slow.



One of the first challenges is the snake.

The adventure begins in a small desert town. The first problem, and one of the more difficult ones, is to find a way to get past a large snake in order to search for clues and equipment. The adventure continues on two islands and eventually to the castle where the princess is being held captive. Riddles involve eliciting information from various animals along the way, using equipment in unique ways, finding special code words that will propel the player to the next encounter, and distinguishing allies from enemies.

The adventure has a save feature which many players will find invaluable. Should the player be killed, (s)he will not have to start over at the beginning; the game can be restored at some point before that danger area, and alternatives can be attempted.

As is the case with many adventure games of some complexity, *The Wizard and the Princess* is an excellent family game. Suggestions and alternatives fly thick and fast, and very often the most outlandish idea is the one that works, such as trying to find something to feed a hungry lion.

Though experienced adventure gameplayers will find this one of moderate difficulty, it may be a little complicated for the novice. The game has been assembled with great attention to detail in graphics and text. It should be noted that the graphics are slower than many adventures, the colors filling in on-screen. But the game itself is challenging and substantive enough to keep the player's interest for many many hours.

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Atari vs. Coleco Revisited

I appreciated the attention which you gave the ColecoVision and the 5200; however, I disagree with your article for the following reasons:

1. Price - ColecoVisions are being sold (at least where I live) at about $160 per unit, and I've even found them at $130, as opposed to your quote of $180.

2. Console - As shown on your cover, the new ColecoVision console is far from drab. I find it attractive and functional. As for the 5200, that sleek design which you mention is very nice for picking up fingerprints and dust!

3. Controls - The 5200 has "360°" controllers. This is pointless, as almost all of its current games require two or four direction control. As for the joystick itself, it is not self-centering, and this can be frustrating. I also have found that the 5200 sticks are not "VCS compatible" and therefore, owners of the 5200 are not able to purchase "deluxe" joysticks.

You stated that the "seasoned arcader" will want the 5200. How many seasoned arcaders out there want to play *Super Breakout, Space Invaders* or *Asteroids?* What the seasoned arcader wants is the newest of the new, which ColecoVision has delivered with *Subroc, Time Pilot, Buck Rogers* and *Frenzy*—something beyond the monotony of *Space Invaders.*

As for sports, anyone who attended the Consumer Electronics Show knows that ColecoVision *Baseball* is the best sports game ever made; *Atari Football* shows no more progress beyond what Mattel achieved three years ago.

Like you said, the games are mostly a matter of taste, but I don't think any arcade buff will want to be without a ColecoVision.

Daniel Rofoli
Huntington Beach, CA

I have a few points to add to your article on Atari and Coleco.

The lack of a self-centering joystick for the Atari 5200 has driven many arcaders and former VCS owners to the brink of suicide. It is rumored that Atari will correct this flaw; let us hope so.

You omitted a comparison of the systems' TV-game switch boxes. The Coleco switch box is your garden variety switch box, kin to that of the VCS and most home computers. Atari, on the other hand, employs an electronic switch on the 5200: turn on the unit and it automatically switches from TV to game, turn it off and it reverts to TV. This might seem to give the 5200 an advantage, but in fact their switching device is incompatible with any other hardware. If you own a computer or other videogame unit, you must purchase an additional switch and then figure out how to wire it all together.

Your giving Atari the edge in arcade adaptation is a debatable point. All but two of my sixteen ColecoVision cartridges are arcade translations. What Coleco does is discover commercial games that never quite made it in the arcades and yet are superior to those that did. These include *Venture, Lady Bug, Mouse Trap, Space Panic* and *Pepper II.*

Finally, one point of interest in comparing the systems is promises made and promises kept. Coleco has promised and delivered the driving expansion module and the VCS adaptor module, and has set dates for a roller controller, super controllers, and a computer keyboard. Atari, on the other hand, has long promised a Trak Ball controller which is yet to be seen in midwestern retail stores, nor is the promised VCS adaptor.

Larry L. Lindblum
Glenwood, IO

The 5200 TrakBall is in release and is a terrific piece of hardware. As for Coleco's SuperGame module, strong rumor has it that, whether the software be supergame wafers (as originally announced) or digital datapacks (the mini-cassette format for the Adam computer) . . . that module will never materialize.

The comparison of the prices of the Atari 5200 and ColecoVision was incomplete. The price of the 5200 was stated as being $190 to $250. My local store's regular price for the 5200 is $149.

I found it incredible that the reviewer felt the 5200's color is subdued, or "washed out." Turn the color control on your TV up! The color will then be as vivid as Coleco's. (I own both, incidentally. I own almost all of the videogame systems.)

I felt that the review was unfairly biased toward Coleco. Perhaps this reflects the reviewer's skill level, since the 5200 games are much more difficult to master.

Get with it, folks. Stop playing kids' games . . . play a real videogame!

Bill Jones
Holiday, FL

Somehow, I'm not surprised!

Why do you mention that the discriminating gamer will benefit from the extra seventy dollars of workmanship in the 5200, and then not say how? We think the writer forgets that the 5200 would have cost over $320 if competition from Coleco hadn't forced the reduction.

We think it's fairly obvious who is benefiting from those extra seventy dollars.

Nicholas & Mary D'Orazio
Wilmington, DE

Why, in every issue of your magazine, do you find something else wrong with ColecoVision and praise the awful Atari 5200?

ColecoVision has 32K ROM and 17K RAM. The Atari 5200 has 10K ROM and 16K RAM. The Atari's controllers are terrible, and the graphics of its games are two dimensional. ColecoVision's games are bright and colorful, three-dimensional wonders. Its sound is better than the 5200's, its selection of games is better, and more of them are originals.

The only reason I buy your magazine is to see what else you can find wrong with ColecoVision.

Jeff Rizzo
Pittsburgh, PA

Is praise for one system to be construed as condemnation of another? We hope not. The whole point of the article was that both systems are marvelous, but in different ways. But as long as we're in hot water, we will answer the D'Orazios' question: most engineers we speak to acknowledge that the 5200 is built with more care and durability than the ColecoVision, and that its microprocessor is (oversimplifying a bit) faster, which accounts for the more rapid pace of many 5200 games. Does this comparison represent a blast at ColecoVision? Despite our feeble protests, many will perceive it as such.

X-Rated Remarks

I feel that your reviewers and staff did not exercise good judgment in reviewing, and running advertisements for, X-rated cartridges such as *X-Man*. The other videogame magazines don't accept such ads and I for one am glad they don't. Being different is not always desirable, or right.

Either you are not interested in selling magazines to the younger set or you just don't care or both. I hope it was just a temporary lapse in judgement.

Philip Edwards
Fresno, CA

Because you have decided to compromise the integrity of your publication for the money this (*X-Man*) advertisement has brought you, you have permanently lost my business. My money is worth more to me than to purchase something like this. I am very disappointed.

Dene Young
Address Withheld

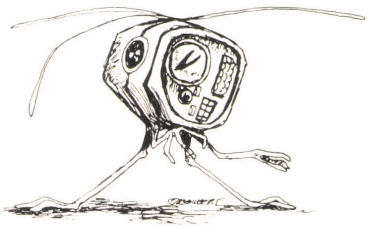
And who, we want to know, has dictated that censorship enhances integrity? Isn't integrity, in large part, the ability to tolerate views and recreation which may not reflect our personal preferences?

Satan's Spokeswoman—The Sequel

In my letter to E.C. Meade that was printed in your July issue, I was attempting to point out, among other things, a pro-Activision, anti-Coleco bias. Ms. Meade, you must admit that your dislike of an almost unanimously acclaimed cartridge such as *Zaxxon* might seem suspect to the casual reader, and even more so to a zealous ColecoVision owner. Furthermore, your effusive reviews of *River Raid* and *Skyjinks*, along with your expressed preference for the "Activision imprimatur," may suggest a less-than-fully-objective attitude toward that company's software.

There is an apparent trend in videogame journalism: the old double standard. It seems that of late some reviewers have been grasping at straws to glorify 2600 software, while at the same time adopting an overly critical attitude toward Coleco software

Ms. Meade, while I feel you're guilty of that double standard on occasion, I confess that, after reading several issues of VCI, I must at the same time be impressed with your overall objectivity. Your review of *Donkey Kong Jr.* is a case in point. Based on your dislike of the arcade game, you could have simply written off the cartridge as well. The fact that you still commended the cartridge shows a tremendous degree of open-mindedness.



The pioneer videogame magazine now offers reviews that sound like company press releases. They like almost anything.

Another competitor is more hard-edged, but each game is reviewed by only one reviewer and they rotate a large staff of critics. In addition, their choice of critics is suspect in many cases. In one disastrous review of *The Empire Strikes Back* by Parker Brothers, a science fiction author dismissed the game in three sentences as being beneath his dignity, and then followed with five paragraphs condemning videogaming in general.

By contrast, VCI offers no-holds-barred reviews, the continuity of having the same critics review all games, and the point-counterpoint of two reviews for each game.

My heartfelt apologies, Ms. Meade. I done you wrong.

Douglas S. Raiburn
Menomonee Falls, WI

E.C.Meade replies: Thanks, Doug. You make a body feel like he/she is in the right business after all.

Waiting for ColeGodot

Coleco has constantly disappointed me—and other owners of ColecoVision—since its introduction last year. How can they include in their catalog games that will never be released, games such as *Mr. Turtle, Rip Cord,* and *Side Track* to name a few? *Tunnels and Trolls* is not due until September, according to Coleco's schedule, and it will look nothing like it did in the catalog. They never do. Advertising a game a full year before its planned release is ludicrous. This is true of *Baseball,* of *Dracula;* it's true of their "Super Game Module."

I realize that schedules are tentative, but companies such as Atari seem reliable. It may come to the point where I might consider selling my ColecoVision in favor of a different game.

Chris Ciccarello
Norcross, GA

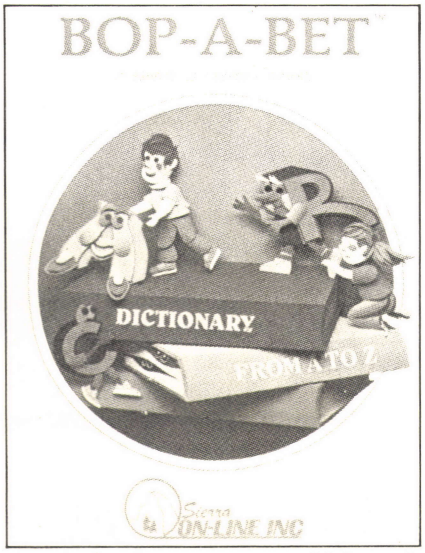
EARLY CHILDHOOD SOFTWARE

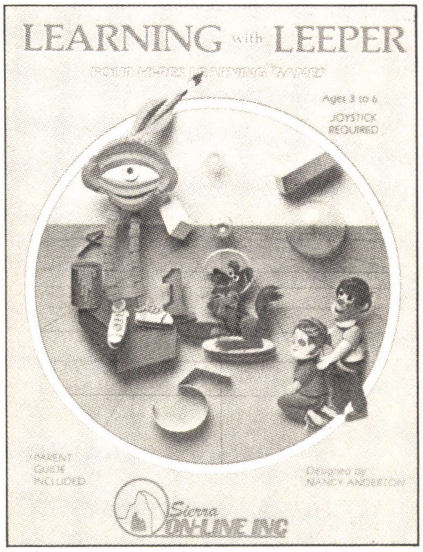
Listing compiled and reviewed by Susan Levitan

The following are recommended educational software programs that emphasize early childhood skills and development.

Young children generally have short attention spans and low levels of concentration, which good programs take into account. The computer can be used as a tool to help with early childhood development, skills and concepts such as eye-hand coordination; laterality and directionality; distance, size, shape, and color discrimination; number, letter, and word discrimination; classifying things and ideas by matching or comparing; following simple instructions; understanding sequence; recognizing parts vs. whole; and sight vocabulary.

The child should be an active participant in this learning process. Interaction with the computer should be an exciting experience. Watch the eyes light up!





Bop-A-Bet ***is a maze game which teaches alphabetization;*** **Learning with Leeper** ***is a series of lessons for preschoolers—both from Sierra On-Line.***

KINDERCOMP (Spinnaker Software Corp.; Apple, IBM PC, Atari, Commodore 64; ages 3-8) Improve reading readiness and counting skills by matching shapes and letters, writing names, drawing pictures, and filling in the missing numbers. The screen comes to life with colorful rewards when correct answers are given. User friendly.

HEY DIDDLE DIDDLE (Spinnaker Software Corp.; Apple, IBM PC, Atari, Commodore 64; ages 3-10) Features 30 classic rhymes with color graphics and computer music. Unscramble the verses and watch the rhymes come to life. Lots of fun.

RHYMES AND RIDDLES (Spinnaker Software Corp.; Apple, IBM PC, Atari, Commodore 64; ages 4-9) A letter guessing game using famous sayings, popular nursery rhymes, and riddles. User friendly and a fun program.

FACEMAKER (Spinnaker Software Corp.; Apple, IBM PC, Atari, Commodore 64; ages 4-12) Creativity, memory, and concentration are needed as the child builds a face on the screen and then makes it smile, wink, and even wiggle its ears.

JUGGLES' RAINBOW (The Learning Co.; Apple, Atari; ages 3-6) Delightful introduction to the computer for preschoolers. Introduces spatial concepts of left/right and above/below and uses color animation. Watch your child construct Juggle's rainbow. Documentation includes a child's story guide to the program and an activity card.

STICKY BEAR NUMBERS (Xerox Education; Apple; ages 3-6) Groups of moving objects teach about numbers and simple arithmetic in a friendly setting.

LUNAR LEEPER LEARNING (Sierra-On-Line; Apple; ages 3-6) Set of four games focusing on math, reading, and writing readiness skills. Counting, shape and color recognition, eye-hand coordination, and painting skills will be used in this educational and entertaining program.

COUNTING BEE (Edu-Ware; Apple; ages 3-6) Teaches counting, simple addition and subtraction, and concepts of shape, weight, and measurement. Good hi-res math instruction.

SPELLING BEE/READING PRIMER (Edu-Ware; Apple; ages 3-6) Hi-res program for eye-hand coordination, memory, and motor skills. Word lists include shapes and animals.

PRESCHOOL IQ BUILDER 1 (Program Design, Inc.; Apple, Atari; ages 3-6) The first challenge: Are pairs of figures the same or different? Next, match the letter on the screen to the one on the keyboard.

PRESCHOOL IQ BUILDER 2 (Program Design, Inc.; Apple, Atari; ages 3-6) Teaches letter, number, symbol, and word discrimination as the youngster makes the face on the screen sing a happy song.

ALIENCOUNTER (Milliken; Apple, Atari; K-1) Counting skills are emphasized in this learning game, complete with flying saucers and aliens. Any close encounters?

EARLY GAMES FOR YOUNG CHILDREN (Counterpoint Software; Apple; ages 2-7) Introduces numbers and letters to young children. Little or no adult supervision is needed. Also includes a drawing program.

MIX AND MATCH (Apple Computer, Inc.; Apple; preschool, primary and beyond) Set of four games. In "Mix and Match", construct new Muppet figures from selections of six familiar ones. Remember Big Bird or the Cookie Monster? In "Animal", the user teaches the computer about animals. How do various animals differ? "Layer Cake" is a logic game and can be played on various levels of difficulty. "Raise the Flags" is a positive approach to "hangman" and the user may include his/her own word lists.

ERNIE'S QUIZ (Apple Computer, Inc.; Apple; preschool and primary) Collection of four games. "Guess Who" helps with shape, image, and color recognition. "Jelly Beans" emphasizes counting skills. Create numerous faces in "Face-It", using game paddles. "Ernie's Quiz" is a multiple choice game. How well does the child know the Sesame Street Muppets. This program has very good instructions and directions and gives encouragement and positive reinforcement to youngsters.

ALPHABET BEASTS AND CO. (Software Productions; Apple; ages 3 and up) Makes learning, letters, and numbers exciting. Simple to operate—just pressing any number or letter gets the action going. Program provides user with pictures as well.

BOP-A-BET (Sunnyside Soft; Apple; ages 5-8) Teaches alphabetizing skills, which can later be applied to using the dictionary, encyclopedia, a book index, etc.

MY FIRST ALPHABET (Atari, Inc.; Atari; ages 2 and up) A good approach to learning the alphabet, with hi-res pictures.

ALPHABET ARCADE (Program Design, Inc.; Atari; ages 5 and up) Put letters of the alphabet in their correct order and the user will be a winner with "letters for Lisa" and "Letter Treasure." There are varying levels of difficulty.

CALENDAR (Scholastic; Atari, PET; grades K-2) Provides practice with days of the week and months of the year. Select the missing day or month from a sequence—either by fill-in or multiple choice.

COUNTING (Scholastic; Atari, PET; grades K-2) Shapes and light make learning to count more fun in this program. Answers are to be typed in by the user. Accurately count squares, triangles, and other shapes and watch flashing patterns appear on the screen.

EARLY LEARNING FUN (Texas Instruments; TI-99/4A; ages 3-6) Teaches shape, number, and letter recognition, counting, and the alphabet. Also introduces the computer as a friendly tool.

TERRY TURTLE'S ADVENTURE (Milton Bradley; TI-99/4A; preschool and primary) Guide Terry through a changing landscape and watch him obey as well as talk! Teaches elementary programming and learning concepts. Uses simple commands.

With reading comprehension games such as* Dragon's Keep *and* Troll's Tale, *Sierra On-Line has identified a specific educational need, then designed an entertaining game to challenge it.

ALPHAKEY (Tandy Corp.; TRS-80 I/II; ages 4-6) The youngster becomes acquainted with the alphabet and the computer keyboard. User friendly.

NINE GAMES FOR PRESCHOOLERS (The Software Exchange; TRS-80; preschool and primary) Varied graphics and a master menu that does not require any reading skills makes this program appealing to younger children. Includes six alphabet/language games, a maze, and two math counting games.

MISSING LETTER (Scholastic; TRS-80; grades K-1) A good approach to learning the ABC's. A series of five letters appear across the screen with one of the letters missing. The child is asked to "Type in the Missing Letter." If answered correctly, a smiling face appears on the screen and the correct letter "marches" into place. After two consecutive errors, the correct answer is provided.

UPPER/LOWER CASE MATCHING (Scholastic; TRS-80; grades K-1) A face appears on the screen with "I'm thinking of a letter" printed below it. Next a large lower case letter is displayed along with 1 correct and 4 incorrect upper case versions. The user types in the right letter. If incorrect answers are selected twice in a row, the computer shows the correct response. Each lesson presents fifteen letters.

ALPHABET (Microcomputers in Education; PET; preschool and primary) Six consecutive letters of the alphabet are displayed followed by one blank. The child must supply the missing letter. Provides good prompts in response to errors as well as practice with letter sequences.

NUMBER SEQUENCES I AND II (JMH Software; PET, grades K-2) Two illustrated programs give the youngster practice and encouragement in determining proper sequence of numbers up to 1000. User may select level of difficulty (0-10, 0-100, or 0-1000) for practice in supplying the missing numbers.

CLOCK (Scholastic; PET; grades K-2) A fun way to learn about telling time. Level One involves hours and half hours. Level Two includes quarter hours. Clock faces are shown, questions are asked, and correct answers are supplied as needed.

HOME BABYSITTER (Commodore; VIC-20; preschool) This early childhood learning aid teaches youngsters the alphabet and counting.

ABC'S 1 and 2 (JMH Software; VIC-20; preschool-grade 2) ABC's 1 displays consecutive letters, with one letter missing. The child provides the missing letter. In ABC's 2 the child must match the correct upper case letter with the given lower case letter.

ALPHA TUTOR (Softsync, Inc.; Timex Sinclair 1000; ages 4-8) The program visually helps children learn the letters of the alphabet. The first letter is missing from each word. With the help of pictures children learn to match the missing letters to the correct words.

VOWEL TUTOR (Softsync, Inc.; Timex Sinclair 1000; ages 5-9) Learn how to use long and short vowels. Includes a menu with three choices: Long Vowels, Short Vowels, and Long and Short Vowels.

ALPHABET (Fisher-Marriott Software from England; Timex Sinclair 1000; ages 4 and up) Using over-sized upper and lower case graphics, teaches alphabetic order. Teaches location of letters on QWERTY keyboard. Match upper case with lower case letters.

THE COUNT (Fisher-Marriott Software from England; Timex Sinclair 1000; preschool) Helps the youngster understand numbers and counting in a friendly and helpful manner.

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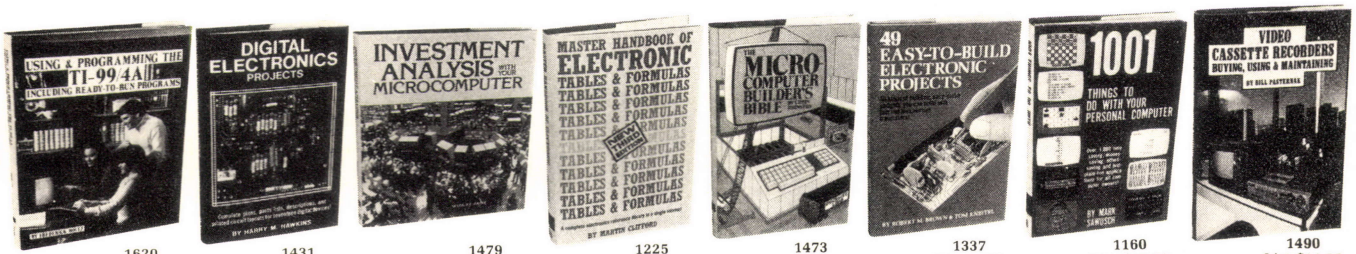

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EDUCATION

Continued from page 22.

should be neat, uncluttered, flicker-free, and clearly defined. A good educational program will pay attention to detail: visual displays are realistic. Similar type information should appear in the same place on the screen (e.g. prompts always appear in upper corner). Letters and numbers are clear and easily distinguishable. Maps, graphs, and other illustrations are accurate as well as easy to interpret. Graphics should be used if they support and reinforce the learning process. The use of graphics should be appropriate to the situation. They should enhance the program and not be used gratuitously.

Color may also be used effectively. However, graphics and/or color should not be distracting nor divert the attention of the child from the instructional objectives of the program. Only one screen or page of material should be displayed at a time. Younger children should not be confused with split or multiple screens. The user should be able to advance or return to any desired page.

Independence. The educational objectives should be realistic and achievable as well as motivational. The program should take into account the attention span, frustration level, and perseverance of the user. For some educational software, prerequisite skills and content knowledge are needed and necessary in order for the child to be successful. Other educational programs may require the user to have access to information, such as a globe or charts, other than that which is provided within the program itself. And still other educational programs are completely self-contained: everything that the user needs to know is supplied in the software package.

Some programs may require intervention by an older person to insure comprehension by the child. Or else, the parent may want educational software that requires no outside help. The child is then able to operate the program entirely on his/her own. Good educational software is self-motivating, self monitoring, and self-paced.

Technical Quality and Durability.

United Microware Industries'* Word Feud *(top),* Sky Math, Space Division *and* Super Hangman, *for the Commodore machines, blend learning and leisure.

The key to technical quality is that the educational software must be "user proof." The user should be able to handle unexpected entries or answers, wrong keys hit such as ESC or RETURN and so on without disrupting the entire program. Educational software must run smoothly and be error-free; that is, free of programming errors and technical problems. The programming, for example, may allow for abbreviated responses from children such as Y for YES and N for NO.

Educational software should run reliably every time. The purchaser of educational software should find out whether or not the program is copy protected. If it is copy protected, you should know the procedure for getting a back-up copy or see if there is a replacement policy in case the diskette is damaged. Software should be durable. It must be reliable and run properly with normal usage over a long period of time.

Cost. Educational software should be cost-effective. Instructional objectives, educational content, as well as other considerations mentioned above should help you make a worthwhile investment.

THE NEW FRONTIER

The computer can be an excellent tool in the educational setting. Educational software is a new, growing, and evolving field. Educational software may provide the user with enrichment, drill and practice, simulations, instructional gaming, and problem-solving techniques. The audience for educational software includes preschoolers, elementary students, and high school students as well as adults.

Educational software may be classified into the following categories: early childhood development, computer literacy and programming, language arts, mathematics, science, social studies and geography, problem-solving/logic, music, art, foreign languages, word processing/business applications, and consumer education. We will be taking a closer look at some of the software developed for these categories in the future.

We have provided you with idealistic guidelines with which educational software can be evaluated. No one program is likely to exhibit all the positive aspects mentioned. Certain goals, characteristics, and standards will be more important than others, depending on what each parent wants for his or her child.

Educational software is indeed on the threshold of a new frontier. The personal computer combined with quality educational software should make the learning experience challenging, rewarding, and exciting. The skills learned can be transferred or applied to other situations in life. Be prepared for the 21st century!

COMPUTER LITERACY

Significant Turtle-Related Beginner's Languages

DELTA DRAWING (Spinnaker; Apple, IBM PC, Atari, Commodore 64; ages 4-14) Developed to make the first computer experience an exciting one, Delta Drawing is very user friendly, requiring only single-key commands. Kids learn how to create colorful drawings while at the same time learn about computer programming. An ideal first language.

KIDS' CORNER MAGIC CRAYON (C&C Software; Apple; ages 3 and up) An interactive program that uses a friendly character as a guide to introduce children to the computer. Levels provide for readers and prereaders. Uses single keystroke commands to draw colored pictures. Easy to use, well organized program tailor-made for the first time computer user.

APPLE LOGO (Apple Computer Co., Inc.; Apple; all ages) Designed to inspire the user, the Apple Logo program is centered around a "turtle" that can be programmed to move left, right, forward, and backward. This program has "child-friendly" documentation and provides a good foundation for learning other computer languages.

TERRAPIN LOGO (Terrapin; Apple, Commodore 64; all grades) Here is an exciting language utilizing "turtle" graphics to present concepts of computer programming. This version of Logo is easy and fun for both the beginner and the more experienced programmer.

KRELL LOGO (Krell Software, Inc.; Apple; all grades) Logo, as a language, is a useful learning tool. The Krell version stresses the underlying principles of Logo, as the user maneuvers the "turtle" across the screen and creates colorful designs.

CYBER LOGO (Cybertronics International; Apple; all grades) This Logo program introduces computers to the user and utilizes imaginary school and playground settings for teaching the Logo language as a satisfying and rewarding experience. The documentation suggests other outside activities for reinforcement.

COMPUTER FUN (available through Scholastic Inc.; Apple; grades K-3) Delightful series of games help kids view the computer as friendly and useful. This program uses sound, color, and designs to introduce young children to using the computer.

ATARI PILOT (Atari Inc.; Atari; grades 3-12) Pilot means "Programmed Inquiry, Learning or Teaching." This is a good computer language for introducing programming to both children and adults. Easy to learn and use, Atari Pilot features "turtle" graphics so that the user and computer actively and creatively communicate.

TI LOGO (Texas Instruments; TI-99/4; all grades) The user learns that the computer is a useful tool for learning. The TI version of Logo allows almost unlimited creative expression. This powerful language helps generate a positive self-image and aids in the discovery learning process.

TRS-80 COLOR LOGO (Tandy Corporation; TRS-80 Color Computer; all ages) Children learn to program the computer by using "turtle" graphics. Pre-school children can use a "doodle" mode to create graphics. This software will help the user understand graphic relationships and develop problem-solving skills. The computer is a friendly learning tool.

SNAKE (Burgmeier, available through JJ Hammett Co.; TRS-80 Model III; grades 2-10) An exciting graphics language program allows the user to easily draw pictures with very little instruction. Concepts of programming are used when drawing the pictures. User friendly, Snake provides a positive learning experience.

ROBOT PROBE (Sunburst Communications; TRS-80 Model III; grades 3 and up) Children learn to think logically in this game. Introduction to programming is via a "robot." The robot understands only certain commands. The user must learn to speak the robot's language and to think logically in order to complete the game successfully. Varying levels of difficulty may be chosen.

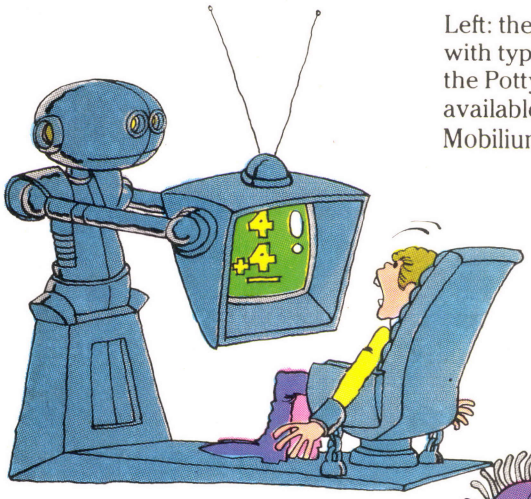
KIDSTUFF (Kidstuff; Pet; grades K-12) "Turtle" graphics is an easy to use interactive programming language. The child draws pictures by moving the turtle around the screen. This program provides an introduction to the logic of programming. Knowledge gained can be transferred to more powerful computer languages.

There is no shortage of educational software for Texas Instruments' TI99/4A, most of it Plato Courseware, the highly acclaimed programs developed by Control Data. Sixty four packages, containing multiple programs, challenge Basic Skills (math, writing, science, social studies and reading for grades three to eight) and forty four packages are aimed at High School Skills. Texas Instruments collaborates with such old masters as DLM (with *Word Invasion,* right, the language skill builder), Addison-Wesley and Milliken to develop their programs. At last count, Texas Instruments listed 450 educational programs in packages of various sizes for their 99/4A, including a BASIC self-teaching program, A LOGO program (examined in this issue's Computereyes column), and tutorials on nutrition, music, business, typing, and the traditional academics.

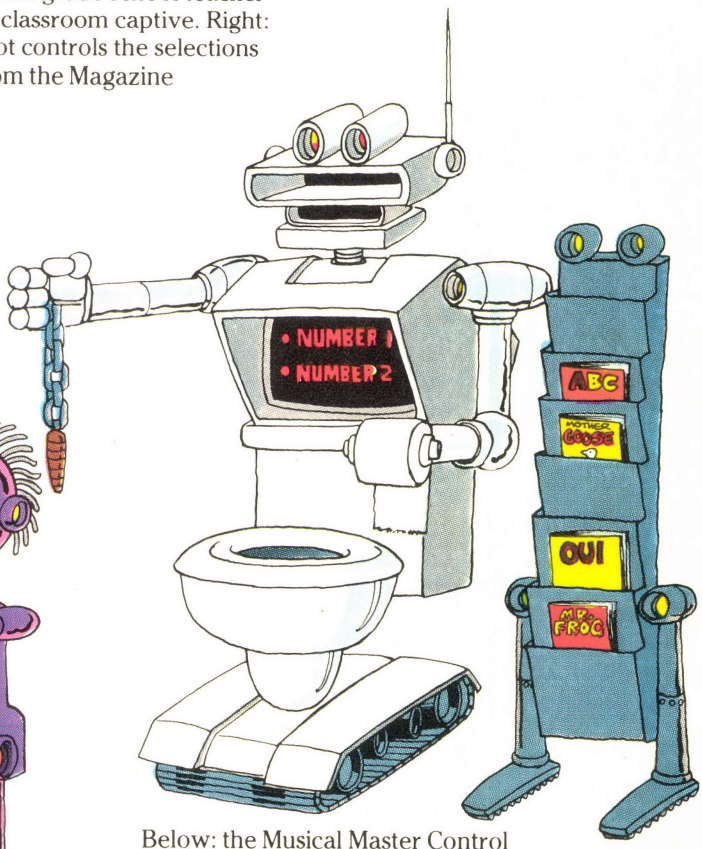
Word Invasion

Teachers Of The 21st Century!

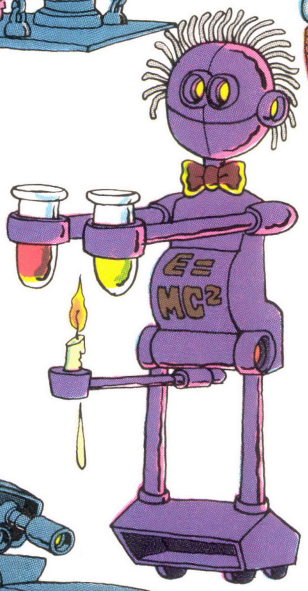
Even five years ago, it seemed improbable that computers would come to play a major role in the education of our children. Likewise, robotics being the crude science that it is today, it seems unlikely that robots will ever serve a useful function in education. But rules were made to be broken, expectations held only to be dashed, and common sense maintained only to be turned topsy-turvy. In that spirit, we project the following developments for our offspring.



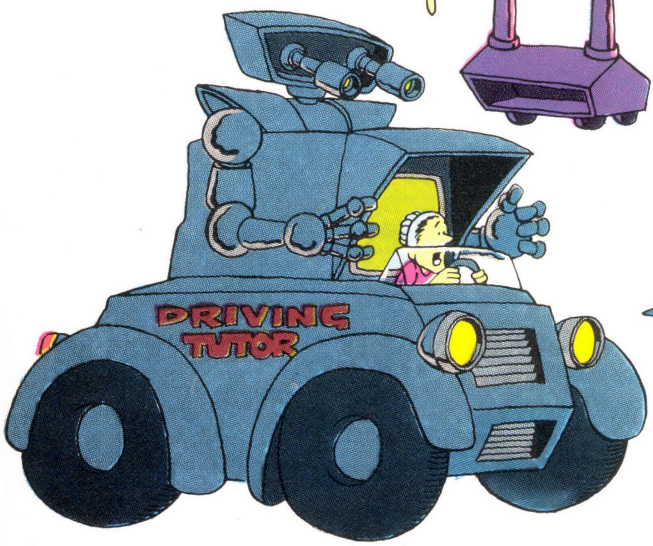
Left: the typical grade school teacher with typical classroom captive. Right: the Potty 'Bot controls the selections available from the Magazine Mobilium.

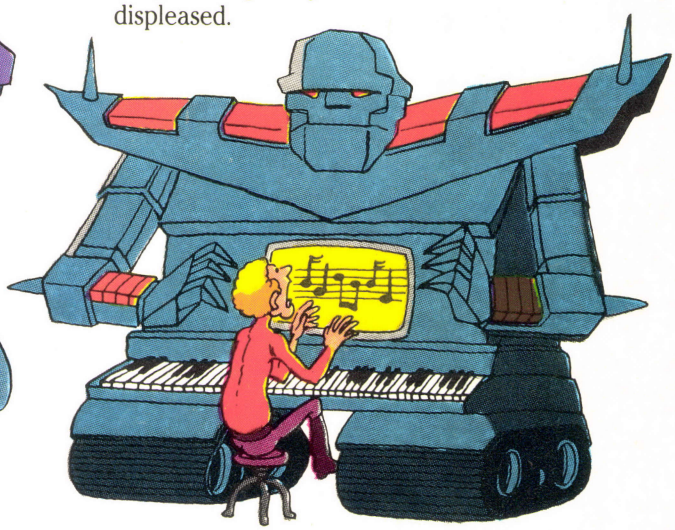


Right: the Chemistry Professor will have an Absent-Minded function built into its program to keep students on their toes. Below: The Captain Bligh Driving Schooner ensures that innocent bystanders need never fear the novice driver.



Below: the Musical Master Control Program claps only when it is displeased.





TAKE NOTES! *Random Input on the Educational Scene*

Characters from Johnny Hart's ***Wizard of Id*** *and* ***B.C.*** *are the stars of Sydney Development's new line of educational software. Programs for all major computers and ColecoVision include* ***Wiztype*** *(a typing tutorial),* ***Wizwords, Wizmath, Wizmusic,*** *and* ***Wizworld*** *(a geography tutorial).*

We'll only go over this once: Children's Television Workshop produces such TV shows as ***Sesame Street*** *and* ***The Electric Company.*** *Children's Computer Workshop is a subsidiary of CTW which produces educational software. CBS Software and CCW have agreed in principal to collaborate in developing home educational computer software. These products are in the wings. Atari has also struck a deal with CCW to develop home videogames combining fun gameplay and basic learning principals. Many of those games are available now in the Atari 2600 format and more are on the way.*

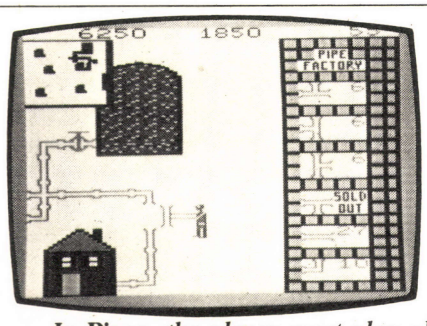
Speaking of CBS Software, their ***Success with Math*** *series is now available for the Apple and Atari computers. But of special interest for IBM and Apple computer owners may be CBS'* ***Mastering the College Board Achievement Tests: English Composition*** *and* ***Mastering the SAT programs.*** *Krell Software has developed similar programs. Students bound for those pressure-cooker exams may want all the help they can get.*

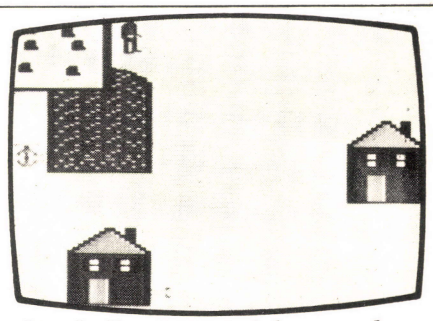
Many educators fear that a have and have-not situation is creating a wide gulf between the computer-literate and the not-so-literate, a situation that could create difficulties for many of the have-nots in the future. The 'haves' are those schools that own enough computers to adequately teach their students computers and programming. The 'have-nots' are those financially strapped institutions which have perhaps one computer or none at all. One solution, short of more money, is Radio Shack's ***Computer Connection,*** *a classroom program to introduce junior and senior high school students to the basics of computers without the actual use of computer hardware. The nine-lesson unit covers the history of computers, how a computer works, an introduction to hardware, terminology, flow charts, programming, and applications. The program, priced at $69, contains a teacher's guide with lesson plans, twenty activity masters, a filmstrip and audio cassette and four wall charts. Radio Shack also offers a* ***Careers in Computing*** *instructional kit for high schoolers.*

The Games Network has signed an agreement to offer educational games from Edu-Ware Services, Inc., one of the major educational software publishers in the nation. The Games Network, set to begin service in December, presents interactive electronic leisure via participating cable television stations and a microcomputer interface which is leased to the homeowner.

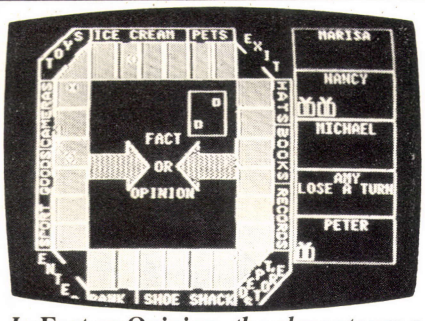
Datamost, one of the leading software developers in the business, is offering a series of easy to read books for kids that will help introduce them to specific computers and programming. The titles will tell it all: ***The Elementary Apple*** *(also* ***Commodore*** *and* ***Timex/Sinclair*** *available separately),* ***How to Write an Apple Program*** *(also* ***IBM-PC*** *and* ***TRS-80*** *available separately), and their very popular book* ***Kids & The Apple*** *has produced offspring:* ***Kids & The Atari, Kids & the VIC,*** *and* ***Kids & The T.I.***

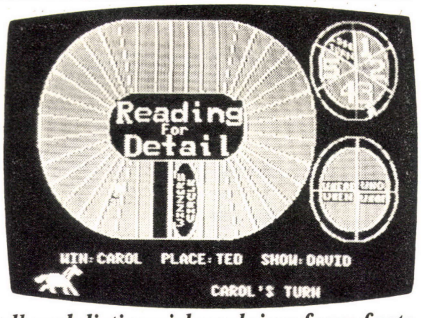
Creative Software is entering the educational software field with their line of Concept Home Education programs. The first in release are *Pipes* (right) and *Spills & Fills.* As opposed to courseware and drill/repetition software (which Creative also produces), Concept programs are those which emphasize play value and have no necessarily correct or incorrect responses.





In* Pipes, *the player must plan ahead and allocate materials properly.





In* Fact or Opinion, *the player tours a mall and distinguishes claims from facts.

Learning Well of New York produces unique games for the Apple and Franklin computers for one to six players, categorized in this manner: reading, spelling, math, language arts and early childhood. Their reading division includes such provocative titles as *Getting the Main Idea, Context Clues, Drawing Conclusions, Predicting Outcomes,* and (left) *Reading for Detail* and *Fact or Opinion.*

VIDEOGAMES COME TO HARVARD

Or What Is The Long Term Social Significance Of Playing Donkey Kong?

by Craig Shaw Gardner

The ways in which videogames are changing our world view was the subject of a three-day symposium, "Videogames and Human Development: A Research Agenda for the 1980s", held May 22nd through May 24th at the Harvard University School of Education.

This symposium, probably the first scholarly conference ever on videogames, was funded with a $40,000 grant from the Atari Corporation, who then gave Harvard a free hand to structure the program. Free hand or not, there were remarkably few critics among the two hundred educators, psychologists, social scientists and computer experts who convened to talk about, and even play, videogames.

And the net result of these three days of lectures, lunches, and informal meetings? Positive but inconclusive; it's simply too early for results. Videogaming has not been around long enough for significant findings in terms of studies. Speaker after speaker told the group, in so many words, to stay tuned for future developments. But the preliminary findings in these studies show that videogames may someday have a major effect on education, psychology, medical rehabilitation, and more.

The chronically mentally ill may benefit from the use of videogames, according to Dr. Stephen Leff of the Harvard Medical School. Leff told the symposium that psychiatric patients do not track visual images in the same way as the general population. Schizophrenics in particular lack cognitive skills. One reason for this is that many psychiatric patients come from disadvantaged backgrounds, home situations in which they are given few resources for dealing with the outside world.

In Leff's research, he is using videogames as "teaching machines." These machines help patients develop role models, give them computer-assisted instruction in such basic needs as grooming, housekeeping, shopping, and using public transportation, and also become "play therapy", in which patients learn to play games with the machine, and to cooperate with other patients in playing these games.

Leff believes these teaching machines have the potential to become standard psychiatric tools. They are portable, inexpensive, and can be played in the absence of staff supervision, all important considerations in today's understaffed, cost conscious hospital psychiatric units.

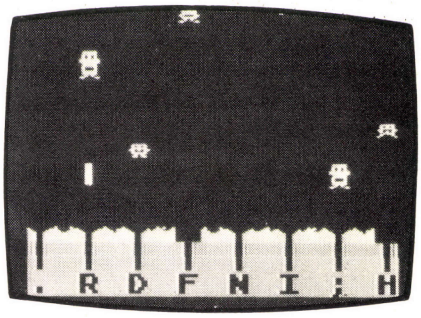
Antonia Stone, founder of "Playing to Win", a program designed to reeducate former criminal offenders, told a similar story. In fact, Stone said, ex-offenders often have the same disadvantaged backgrounds as the chronically mentally ill. Subjects in her research study had an average second grade education level. Many couldn't read at all. And all, according to Stone, "had found their daily life skills eroding" through a pattern of criminal activity and incarceration.

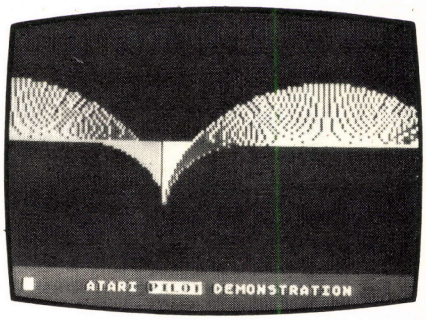
Stone uses videogames extensively in her education program, and reported the same sort of positive but inconclusive results as Dr. Leff for their use as a social motivator. She did relate one exceptional success story, about one subject of the study who couldn't read when he began, and in a few months had mastered a complex text-display strategy game, the most difficult in the program.

Other speakers address further applications for videogames, including studies concerning brain activity in the elderly, assisting children with special needs, and a rehabilitative program for patients with brain injuries, where the games are used to recover the patients' cognitive and motor skills. All these studies agreed that, while videogames were not the sole answer to whatever problem was being addressed, they did seem to serve a useful function as one facet of a total program.

Reports on videogames in the home and in arcades maintained the unrelenting positive tone of the conference.

Most of the major videogame systems are incorporating computer keyboards and compatible software. Promised programs for Atari's Graduate computer (for their 2600) include *Typo Attack* and *Children's Introduction to Programming With Pilot.* Educational programs scheduled for release for Intellivision's computer include *Mr. BASIC Meets Bits 'N' Bytes, Way with Words,* and *Game Maker.*





Edna Mitchell's talk on the effects videogames had on children showed what she called "common sense results." Mitchell, head of the Department of Education of Mills College in Oakland, California, studied twenty families with videogames to see just who in the family played them, and what effect this had on the family structure.

The average family spent forty two minutes per day playing the games, according to Mitchell, "not an inordinate amount of time." Once families got videogames, they tended to watch less television. Boys tended to play alone more than girls, while girls played more with friends. Only 50% of the mothers would play the games, while others declared themselves "too busy" or "not interested." The enthusiasm of fathers for videogames waned when they found their children were better at them than they were. And videogames tended to bring families together.

B. David Brooks, of the University of Southern California, gave even more positive news about the social effects of video arcades on teenagers. Brooks interviewed 973 adolescent video arcade patrons in California, and, despite parental concern about the effects video arcades have on youth, he said, his results were "definitely non-alarmist."

Brooks found that videogamers tended to be fairly stable and generally above average in intelligence. 68% of those he interviewed had at least a C average in high school. 63% had full or part-time jobs. He found that arcades were used by many teens as social gathering places, and that most played only part of the time they were at the arcades. In fact, rather than spend all their money on video games, Brooks discovered that 80% of those he interviewed spent $5 or less every week in the arcades.

Contrary to some critics of these arcades, Brooks argued that playing videogames does not isolate the player, since other teens gather around the game to watch, talk and argue. In fact, he said that the games can aid in the socialization of loners, since, as these loners become more skilled at the games, other teens will join them to watch them play.

Brooks cited a study of burn victims in Long Beach, California, to amplify this last point. These victims are often badly scarred, and therefore shunned by other teens. When videogame playing was introduced into the study, however, the burn victims and other teens began to play and talk about the games together, forgetting their surface differences.

Other positive findings in Brook's study included 95% of the teens reporting that the sale of drugs in arcades was not a problem. And a large number also believed arcade play actually decreased drug and alcohol consumption, since players are not as skilled when they are "loaded".

Brooks concluded his talk with a description, based on his experience, of "positive arcades": establishments that are clean and well-lit; laid out so that adults can observe the games; no food, drink or music allowed; and high visibility of staff and security.

The only real warnings concerning videogames came from the conference's educators. David N. Perkins, Director of Project Zero at the Harvard Graduate School of Education, reminded the group that content must come first in education. Whatever method is used to convey that content, whether it be a textbook or a videogame, is secondary.

Perkins added that current instructional games are very narrow in scope. Applying current technology to package an entire curriculum would bring numerous problems, a major one being the sheer size of the game. He also posed a number of serious questions to educational game designers: Is the game motivation enough to assist in learning? How much time is taken up by game material vs. education? And is the educational content intrinsically related to the game, or is it tacked on?

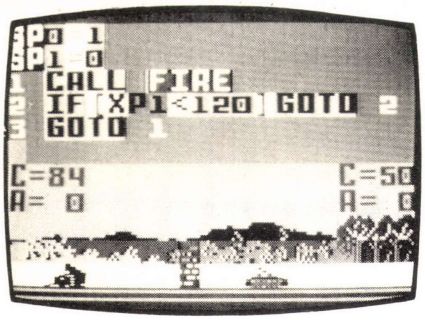
A number of speakers addressed the "Attila the Hun School of Video Design," games based on violence, and showed alternative educational games. Joyce Hakansson, responsible for the design and production of the Computer Gallery at Sesame Place, described one of the games produced by her company, "Bug Hunt", a search strategy game for children ages four to seven. According Hakansson, "People, and children in particular, need to do something to the environment and have the environment respond. Videogames give children power over their environment. When games are combined with learning skills, learning becomes powerful."

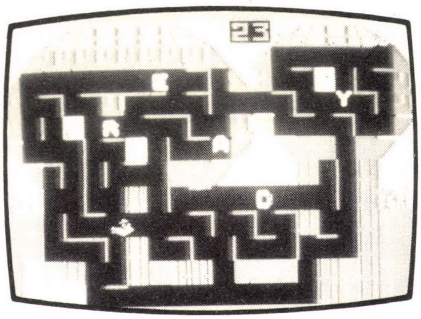
The conference also featured a game room, with displays of major computer and videogames so that conference participants could get "hands on experience". And MGM provided free passes to the screening of an appropriate film, this summer's hit *War Games.*

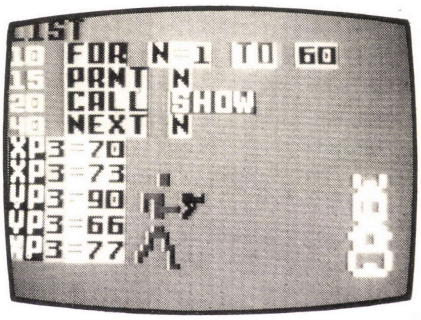
The conference concluded with "A Look to the Future" by Alan Kay, Vice President and Chief Scientist of Atari. Kay's talk was visionary, a speculation on how computers can more fully realize human potential. "We must use technology as an amplifier, not a prosthetic," according to Kay.

Kay concluded his talk with a computer animated sequence from *Star Trek II,* where a dead moon is transformed into a living planet, which Kay introduced by saying:

"If art is the imitation of life, computer arts are the imitation of creation itself."







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GYRUSS

Continued from page 46

Use peripheral vision to make certain that parallel bombs can be dodged as well. With practice, small clusters of bombs can be fired around and through with the player maintaining position until bombs close in on the border.

Formations of enemy ships will come into view from the borders of the screen as well as from the center. When a formation appears from the side of the screen, move the ship alongside the enemies and fire until the final spaceship appears. When the final ship appears the group will begin bombing the player's ship. Be prepared to move away from the side of the screen when the final enemy craft appears.

Once four enemy formations have come into play, surviving ships from the center will begin a united attack. Fire as they approach the borders, then move away and fire again as they re-approach the borders, then move away and fire again as they re-approach from the center.

The last two surviving ships will attempt to escape from the screen, flying in erratic patterns. Shoot to the *sides* of these ships to catch them as they make turns.

Occasionally a group of three satellites will approach to either side. Destroying the center satellite awards the player double firepower (two bullets released simultaneously). If not immediately threatened by attacking ships, position your craft to destroy the satellites. Five hundred to fifteen hundred points are awarded for destroying the satellites. Double firepower remains active for the life of the player's ship. Once the player has double firepower, future groups of satellites are worth from one thousand to two thousand points.

Meteors which appear from the depths of the screen cannot be destroyed and must be avoided.

As play progresses, pairs of satellites which radiate an electromagnetic wave between themselves will appear. Destroy at least one of them to extinguish the wave. If the player's ship is caught between the satellites as they approach the rim of the screen, the ship will be destroyed. Destroy these satellites while they are still relatively far from the edge.

The third level (and every fourth level thereafter) are "Chance Stages," similar to *Galaga's* "Challenge Stage," wherein enemy ships do not fire at the player. One hundred points are earned for each ship destroyed during these stages. Destroying an entire formation awards the player one thousand bonus points. Destroying *all* the ships during the "Chance Stage" awards a hefty ten thousand bonus points.

Bonus points for destroying formations of ships during "Chance" play increase from one thousand to three thousand by stage nineteen.

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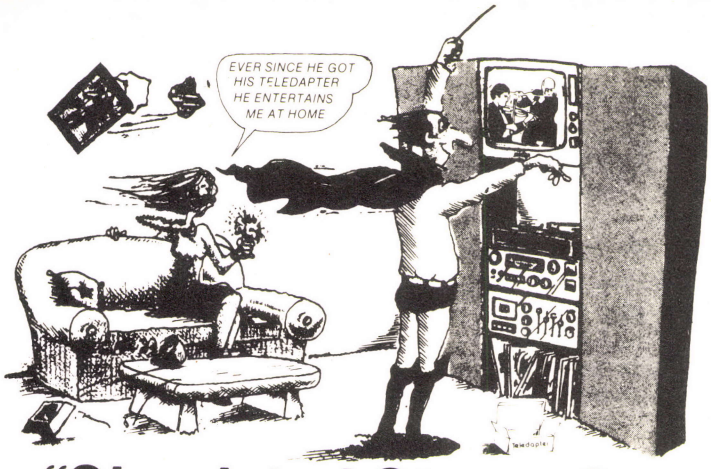
Also welcome are stories of incomptence, humiliation and clumsiness relating to the videogame field . . . the worst ad campaign you've ever seen, the most embarrassing defeat you've ever undergone, the most pointless peripheral product you've ever purchased or seen advertised etc. etc.

Give us your tired, your poor, and send them to Videogaming Illustrated, 45 W. 34th St., Room 407, New York, NY 10001.



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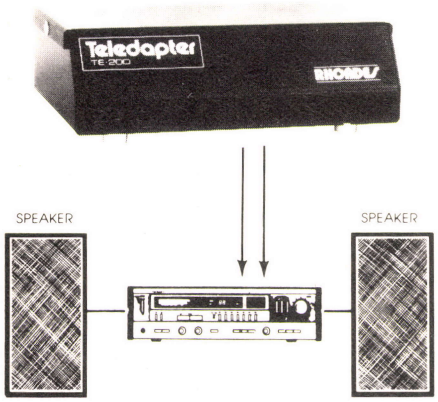

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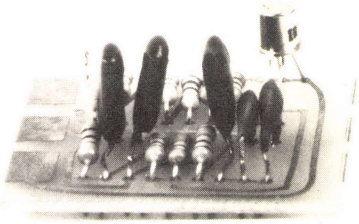

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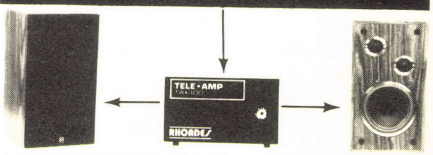

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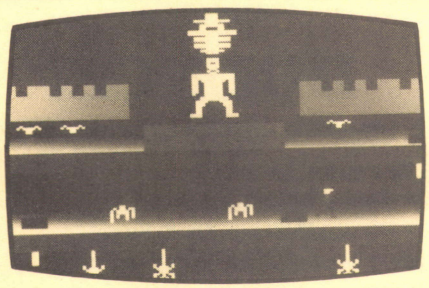
THE BOOK OF VIDEOGAME LISTS!

• - Indicates games of special interest or excellence

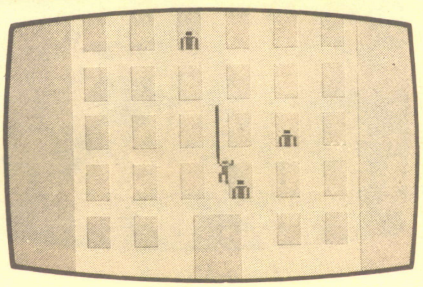
I - Intellivision C - ColecoVision 2 - Atari 2600 5 - Atari 5200 O - Odyssey

Herewith, we submit the second installment of our fabulous Book of Videogame Lists, an easy reference guide to home videogames classified according to gameplay, theme, and other, more trivial, criteria. In our last issue we presented such luminary lists as Slide & Shoot (a hefty one, that, with *Space Invaders* as the most commonly known game), Streak & Shoot (*Vanguard* et al), Pivot & Shoot (*Asteroids*), First Person view games, Mythic Adventures, Paddle Controlled games and many more helpful and hopeless catalogs.

After perusing this *magnum dopus*, if you are inspired to make up a list of an irrelevant or indispensable nature, don't hesitate! Send it to Videogaming Illustrated, 45 W. 34th St., Room 407, New York, NY 10001.



Frankenstein's Monster



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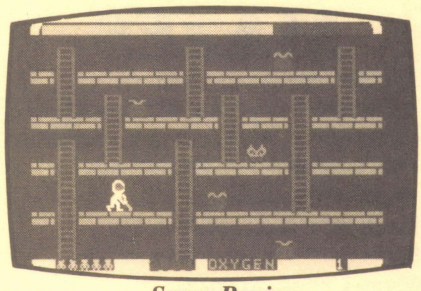


Space Panic

MULTILEVEL MADNESS

• **Donkey Kong** (Coleco. C,2,I) Roll out the barrels

Airlock (Data Age. 2) Sinking ship.

• **Keystone Kapers** (Activision. 2) Katch a Krook. Horizontal scroll.

Donkey Kong Jr. (Coleco. C)

Adventure of Tron (Mattel. 2)

Frankenstein's Monster (Data Age. 2) Contain the creature.

King Kong (Tigervision. 2) Empire State Bldg. Scenario.

Spider-Man (Parker Brothers. 2) Climb and battle the Green Goblin.

Beauty & The Beast (Imagic. I) climbing.

Miner 2049er (Tigervision. 2)

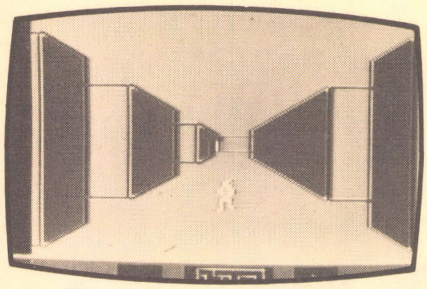
Infiltrate (Apollo. 2)

Pick Axe Pete (Apollo. 2)

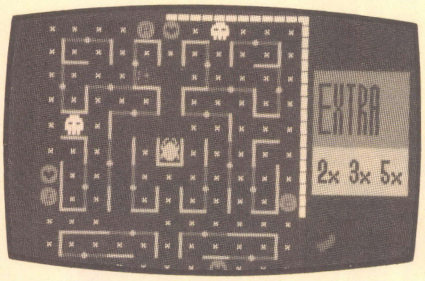
Kangaroo (Atari. 2,5) Save your baby 'roo.

Burgertime (Mattel. I,2) Greasey going.

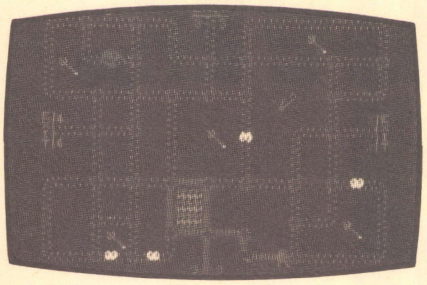
Space Panic (Coleco. C) Bury those aliens.



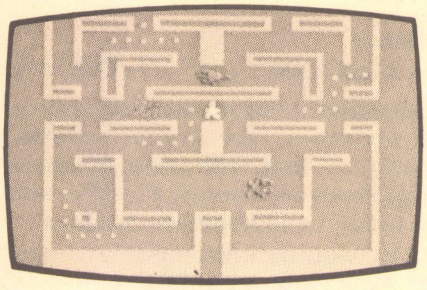
Escape from the Mindmaster



LadyBug



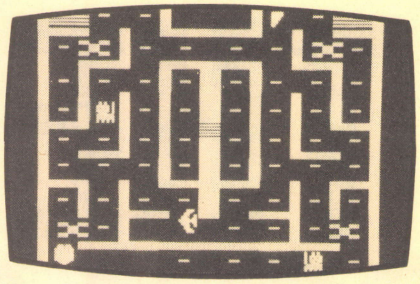
Pepper II



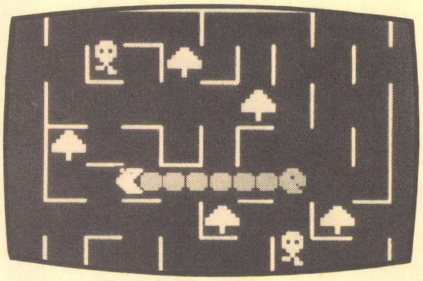
Alien

MAZES

Dodge 'em (Atari. 2) Autos
• **Escape from The Mindmaster** (Starpath. 2) Supercharger required. First person. Very challenging.
• **Lady Bug** (Coleco. C,2)
Lock 'N' Chase (Mattel. I,2)
Malagai (Answer Software. 2)
Maze Craze (Atari. 2)
TunnelRunner (CBS Games. 2) First person.
Take the Money and Run (Odyssey. O)
Towering Inferno (U.S. Games. 2)
Tutankham (Parker Brothers. 2)
Looping (Coleco. C) Second screen
X-Man (Gamex. 2) Adults only.
Pepper II (Coleco. C) Zipper rippers
Alien (Fox Games. 2) Cute adaptation.



Mousetrap

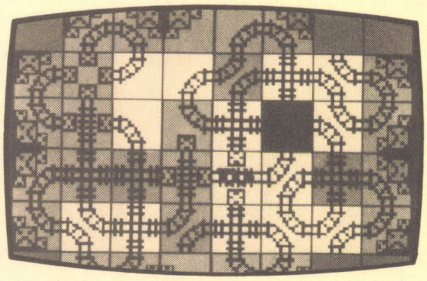


K.C.'s Krazy Chase

NOURISHING MAZES

Pac Man (Atari. 2, 5)
Jawbreaker (Tigervision. 2)
Mousetrap (Coleco. 2,C)
K.C.'s (Odyssey. O) (voice)

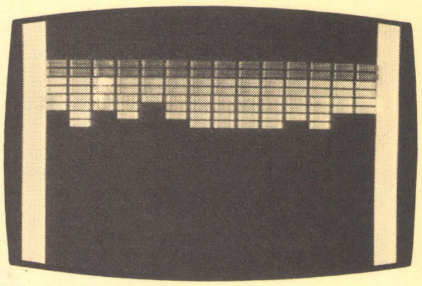
Happy Trails



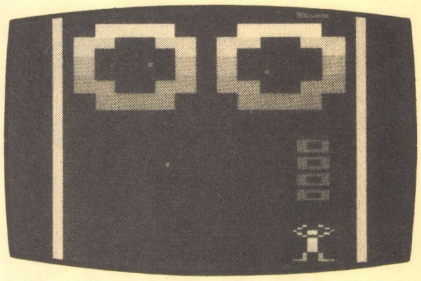
Loco-Motion

LINEAR CHEW-A-MAZE

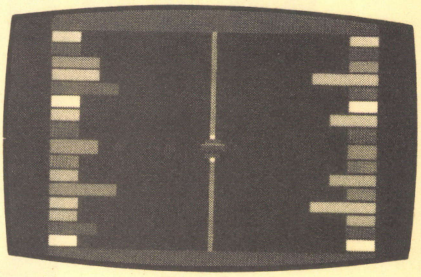
Surround (Atari. 2) Draw and contain.
Tapeworm (Spectravision. 2) Slinky the snake.
Snafu (Mattel. I) Hungry serpents
Happy Trails (Activision. I) Build a Trail.
Loco-Motion (Mattel. I) Railroad.



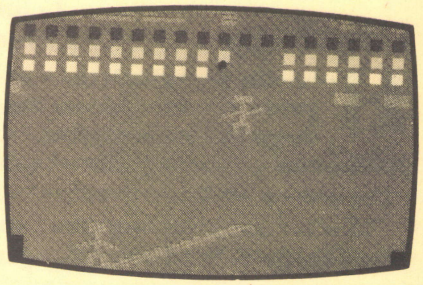
Super Breakout



Fireball



Ram It

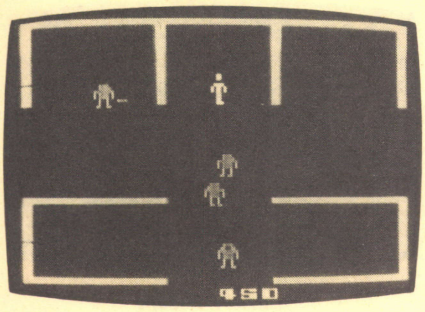


Atari Circus

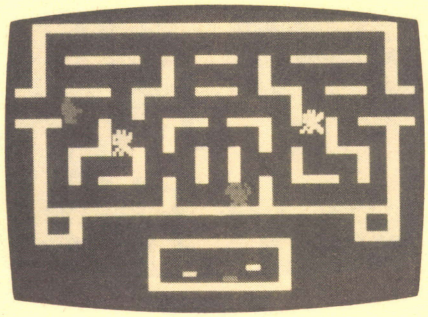
BOUNCE!

(paddle controlled, carom-atic)

Breakout (Atari. 2)
• **Super Breakout** (Atari. 5,2)
• **Fireball** (Starpath. 2) Supercharger required. Witty juggling game.
Ram It Spectravision. 2) Exception: joystick controlled.
Warlords (Atari. 2) Medieval wall bashing.
Blockout/breakdown (Odyssey. O)
Reactor (Parker Brothers. 2) Stop a meltdown.
Canyon Bomber (Atari. 2) Flight.
Bachelor Party (Mystique. 2) Adults only.
Circus Atari (Atari. 2) teeter-totter.



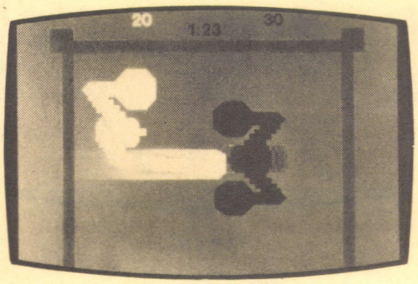
Berzerk



Wizard of Wor

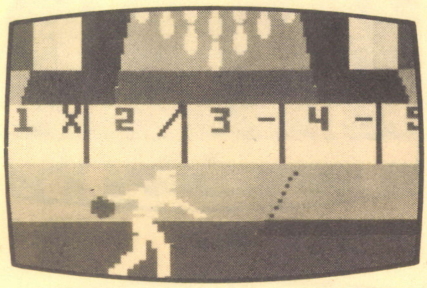
MAZE SHOOT-OUTS

Berzerk (Atari. 2)
Dark Cavern (Mattel. 2)
Marauder (Tigervision. 2)
Slot racers (Atari. 2) Autos.
• **Wizard of Wor** (CBS Games. 2)
Night Stalker (Mattel. I)
Mines of Minos (CommaVid. 2)
Tanks But No Tanks (Zimag. 2)

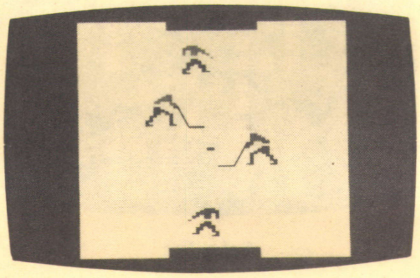


Boxing

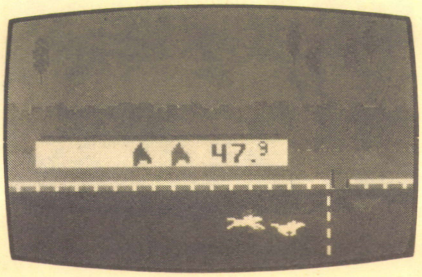
Tennis



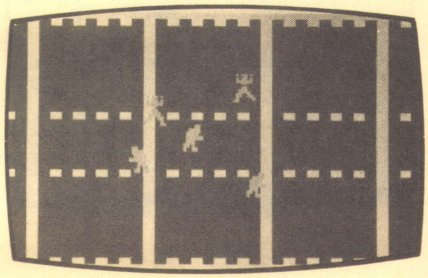
PBA Bowling



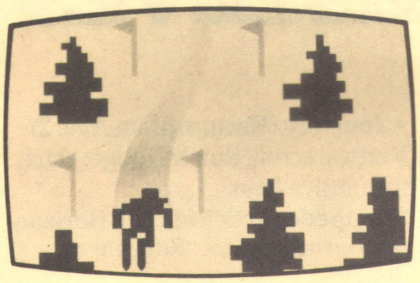
Ice Hockey



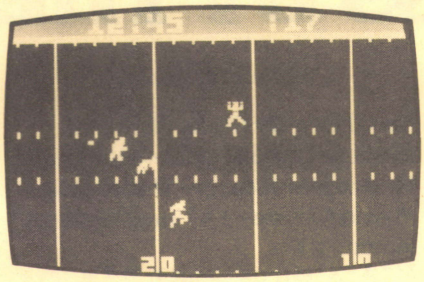
Horse Racing



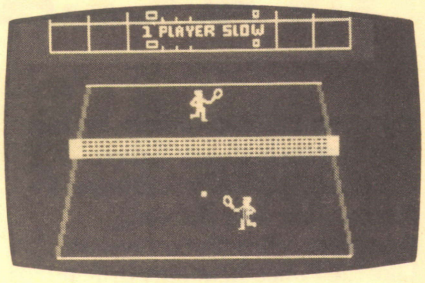
Football



Skiing



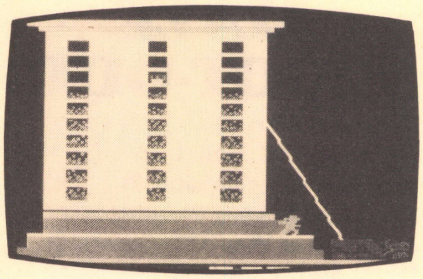
Football



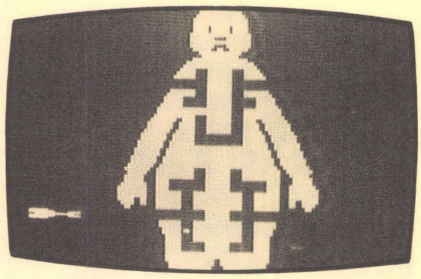
Tennis

SPORTS

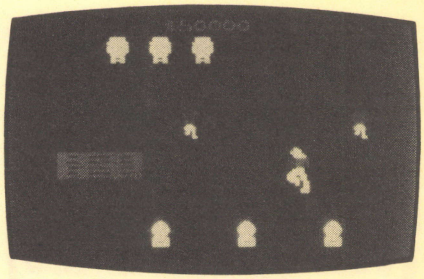
Basketball (Atari. 2)
Boxing (Activision. 2)
Atari VCS Football (Atari. 2)
Bowling (Atari. 2)
Championship Soccer (Atari. 2)
Fishing Derby (Activision. 2)
Golf (Atari. 2)
Home Run (Atari. 2)
Ice Hockey (Activision. 2)
Skiing (Activision. 2)
• **Super Challenge Football** (Mattel. 2)
Super Challenge Baseball (Mattel. 2)
Tennis (Activision. 2)
Trickshot (Imagic. 2) Pool.
Video Olympics (Atari. 2)
Boxing (Mattel. I)
Horse Racing (Mattel. I)
• **Major League Baseball** (Mattel. I)
NASL Soccer (Mattel. I)
NBA Basketball (Mattel. I)
NFL Football (Mattel. I)
NHL Hockey (Mattel. I)
PBA Bowling (Mattel. I)
PGA Golf (Mattel. I)
Tennis (Mattel. I)
Triple Action (Mattel. I) Racing plus Tanks and planes in combat
U.S. Ski Team Skiing (Mattel. I)
Alpine Skiing (Odyssey. O)
Baseball (Odyssey. O)
Basketball (Odyssey. O)
Bowling (Odyssey. O)
Electronic Table Soccer (Odyssey. O)
Football (Odyssey. 0)
Golf (Odyssey. O)
Hockey (Odyssey. O)
Pocket Billiards (Odyssey. O)
Volleyball (Odyssey. O)
Racquetball (Apollo. 2)
Miniature Golf (Atari. 2) or new Sears version.



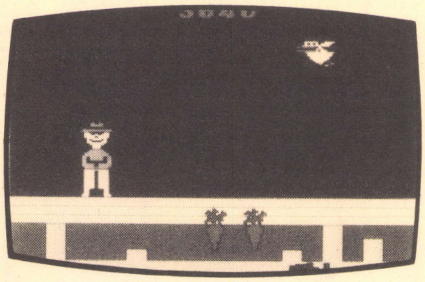
Firefighter



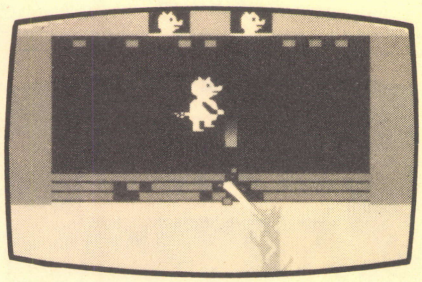
*M*A*S*H*



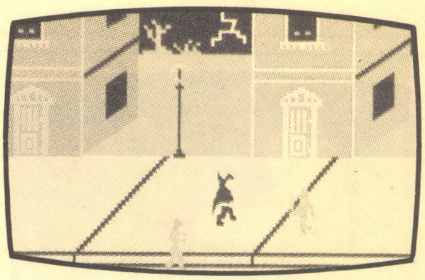
Journey/Escape



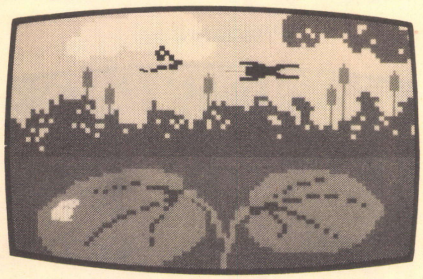
Gopher



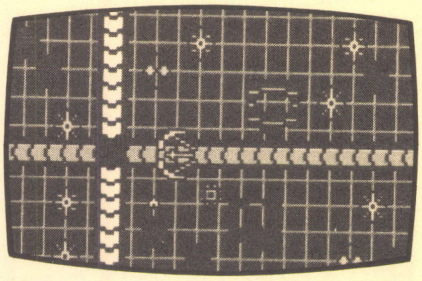
Oink!



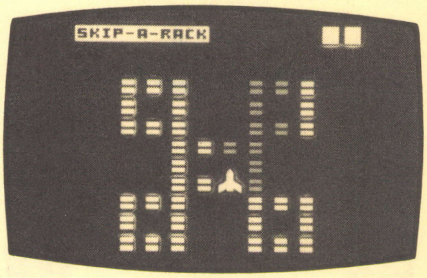
Dracula



FrogBog



Tron: Solar Sailer

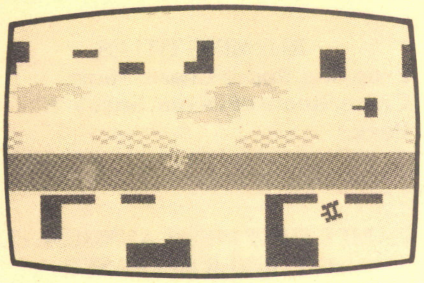


Solar Fox

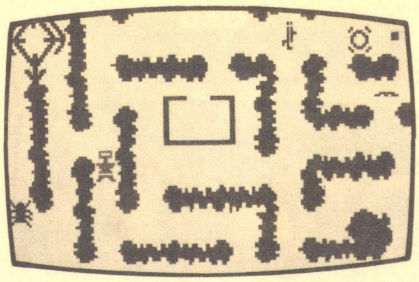
IN A CLASS BY THEMSELVES

(unique gameplay)

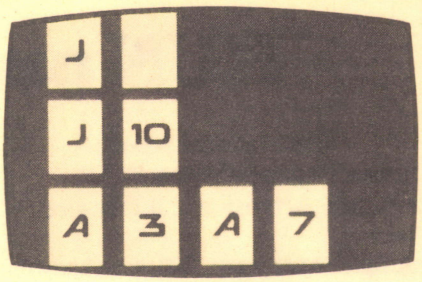
Frogger (Parker Brothers. 2) Help frog to cross highway & river.
Freeway (Activision. 2) Similar to *Frogger,* but with chicken.
Gangster Alley (Spectravision. 2). Like the Police Academy drill: hoods and innocents appear in windows. Shoot or don't shoot.
Firefighter (Imagic. 2) Similar to *Gangster Alley:* Windows.
Gopher (U.S. Games. 2) Bop the gopher as it surfaces. For violent children.
Laser Blast (Activision. 2) *Atlantis* in reverse. You hover over cannons.
Yar's Revenge (Atari. 2) Shoot away the enemy's shield while avoiding enemy fire.
Bomb Squad (Mattel. I) (voice) Defuse that bomb!
Frog Bog (Mattel. I) Leap, stick out your tongue and snare a fly.
Space Battle (Mattel. I) Radar screen and cockpit view.
Tron: Deadly Disks (Mattel. I) strategic game of catch to the death
Helicopter Rescue/Out of this World (Odyssey. O) Timed rescue or landing tasks.
M*A*S*H (Fox Games. 2) Retrieve the wounded, diagnose and operate.
Oink! (Activision. 2) Replace bricks blown down by a big bad wolf. *Breakout* in reverse. A thumb-acher.
• **Jedi Arena** (Parker Brothers. 2) Colorful alignment. Strike game.
Reactor (Parker Brothers. 2) Containment. Super-precise *Breakout.*
• **Qix** (Atari. 5) Electrifying containment game
• **Killer Bees** (Odyssey. O) Vertical slide shoot game.
Amidar (Parker Brothers. 2)
Turmoil (Fox Games. 2)
Picnic (U.S. Games. 2) Swat flies. Big deal.
Tron: Solar Sailer (Mattel. I) (Voice) Drive & fire & file numbers. Complex
• **Journey/Escape** (Data Age. 2) Vertical scroll, Run & Dodge, catch the elusive limo.
Stampede (Activision. 2,I) Horizontal *Journey Escape.* Rope them doggies.
Showdown in 2100 A.D. (Odyssey. O) Android shoot-out.
Spider-Man (Parker Brothers. 2) Use webs to climb building.
Dracula (Imagic. I) Bite before dawn.
Superman (Atari. 2) Multiple screens. Multiple tasks.
SkyDiver (Atari. 2) Hit the landing pad.
Human Cannonball (Atari. 2) Hit the water tower.
Invaders from Hyperspace (Odyssey. O)
Solar Fox (CBS Games. 2) Run a grid, avoid enemies.
Dishaster (Zimag. 2) Keep those plates spinning.



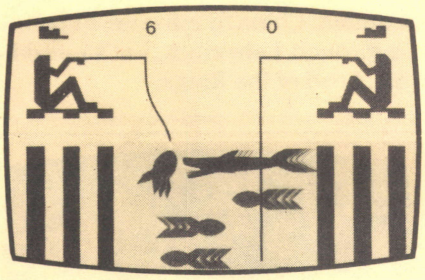
Armor Ambush



Night Stalker

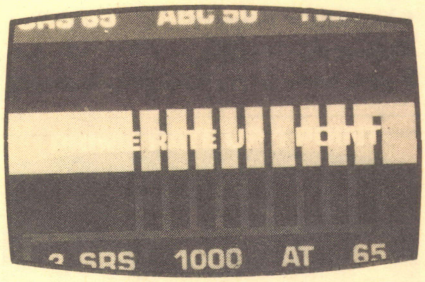


Las Vegas Blackjack



Fishing Derby

Cryptologic

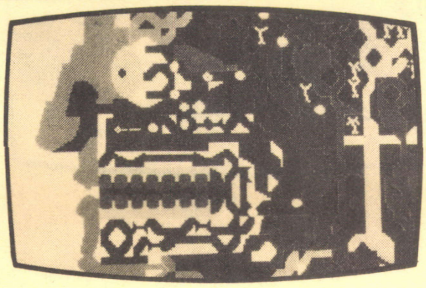


Fortune Hunt

SIMULTANEOUS COMPETITION

(See also Sports games)

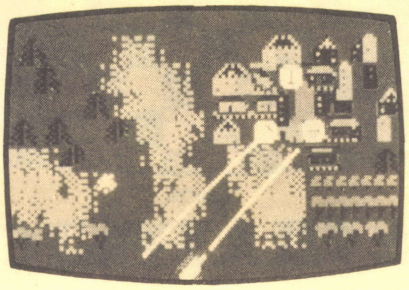
Air-Sea Battle (Atari. 2)
Armor Ambush (Mattel. 2)
Dodge 'em (Atari. 2) Autos
Dragster (Activision. 2)
Fishing Derby (Activision. 2)
Freeway (Activision. 2)
Indy 500 (Atari. 2)
Maze Craze (Atari. 2)
Slot Racers (Atari. 2) Auto maze.
Sneak 'N' Peek (U.S. Games. 2)
Surround (Atari. 2)
Wizard of Wor (CBS Games. 2) Shoot-out in a maze.
Backgammon (Mattel. I)
Combat (Atari. 2)
Armor Battle (Mattel. I)
Auto Racing (Mattel. I)
Checkers (Mattel. I)
Frog Bog (Mattel. I) Snare flies.
Horse Racing (Mattel. I)
Poker-Blackjack (Mattel. I)
Roulette (Mattel. I)
Lock 'N' Chase (Mattel. I) Maze.
Night Stalker (Mattel. I) Maze shoot-out.
Reversi (Mattel. I) checkerboard strategy
Sea Battle (Mattel. I)
Snafu (Mattel. I) *Surround*-like linear game.
Space Hawk (Mattel. I) Streak & Shoot.
Sub Hunt (Mattel. I)
Triple Action (Mattel. I) Auto Racing, tanks, & planes.
Utopia (Mattel. I) Strategy.
Conquest of the World (Odyssey. O)
Cryptologic (Odyssey. O)
Las Vegas Blackjack (Odyssey. O)
Pachinko (Odyssey. O)
Quest for the Rings (Odyssey. O)
Showdown in 2100 AD (Odyssey. O)
The Great Wall Street Fortune Hunt (Odyssey. O)
Take The Money and Run (Odyssey. O) Maze



Microsurgeon

INSIDE THE BODY

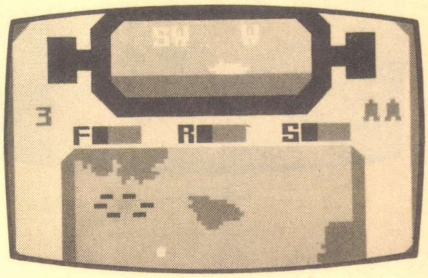
Suicide Mission (Starpath. 2) Requires Supercharger. *Asteroids*-style
MicroSurgeon (Imagic. I) Complex.
Fantastic Voyage (Fox Games. 2) Overhead flight.



Countermeasure

TANKS

Armor Ambush (Mattel. 2)
Combat (Atari. 2)
Armor Battle (Mattel. I)
Triple Action (Mattel. I) Plus auto racing & planes.
• **Countermeasure** (Atari. 5)
Tanks But No Tanks (Zimag. 2)



Sub Hunt

SEA BATTLE

Air-Sea Battle (Atari. 2)
Sea Battle (Mattel. I)
SubHunt (Mattel. I)
Polaris (Tigervision. 2)
Canyon Bomber (Atari. 2) Sea bomber game as second option.

RUN and JUMP

(Horizontal Scroll)

Smurf Rescue (Coleco. 2,C)
• **Pitfall** (Activision. 2,I) Treasure Tactics
Jungle Hunt (Atari. 2) Rescue Lady P.
Tropical Trouble (Imagic. I,2) Gathering your lady's hankies.
• **Keystone Kapers** (Activision, 2) Multi-level scroller
Superman (Atari. 2) Scrolls all over.

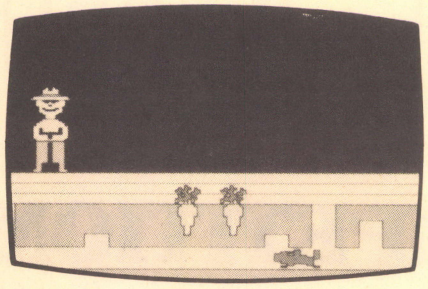
Smurf Rescue

RHYMING TITLES

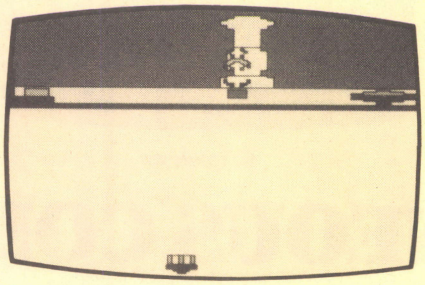
Frog Bog, Space Chase, Maze Craze, Room of Doom, Sneak 'N' Peek.

GAMES THAT WERE ANNOUNCED BUT NEVER RELEASED

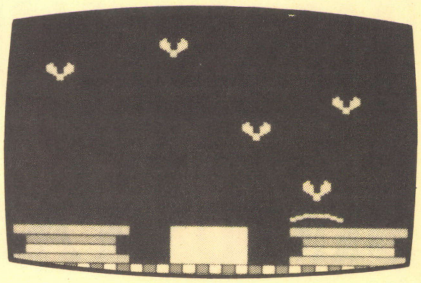
Blue Angels, Mister Bill, Sherlock Holmes, Jaws, Sky Patrol, Cosmic Combat, China Syndrome, Final Approach, Labyrinth, Vat's Incredible, Lord of the Rings.



Gopher



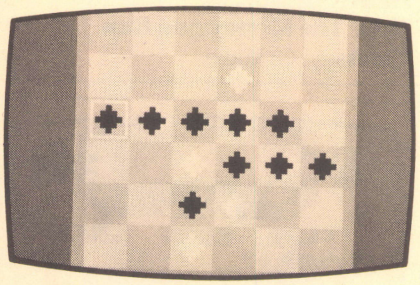
Piece O'Cake



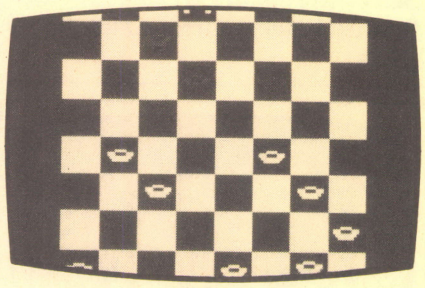
Picnic

GAMES FOR CHILDREN

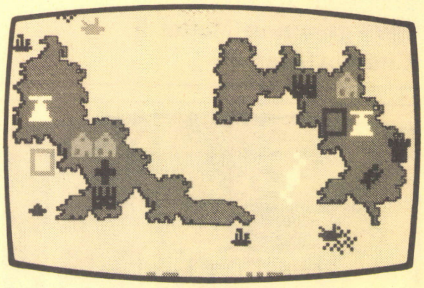
Frogs and Flies (Mattel. 2) Mealtime.
Gopher (U.S. Games. 2) Furry creatures bashed.
• **Smurf Rescue** (Coleco. 2,C)
Sneak 'N' Peek (U.S. Games. 2) Hide n' seek.
Math Fun (Mattel. I) Contradiction in terms?
Word Fun (Mattel. I)
Cryptologic (Odyssey. O) Hangman.
Piece O'Cake (U.S. Games. 2) Build a dessert.
• **Dishaster** (Zimag. 2) Keep dishes spinning.
I want my Mommy (Zimag. 2) High anxiety.
Strawberry Shortcake (Parker Brothers. 2) Primarily for girls.
Matchmaker/Buzzword/Logix (Odyssey. 2)
Monkeyshines (Odyssey. O) Tag.
EGGomania (U.S. Games. 2) Kaboom-style.
GI Joe: Super Cobra (Parker Brothers. 2) Shoot-out mainly for boys.
Oscar's Trash Race (Atari. 2)
Cookie Monster Munch (Atari. 2)



Checkers



Chess



Utopia

STRATEGIC

Outlaw (Atari. 2)
Bridge (Activision. 2)
Checkers (Activision. 2)
Video Chess (Atari. 2)
Checkers (Mattel. I)
Reversi (Mattel. I) Electronic boardgame
Sea Battle (Mattel. I)
Space Spartans (Mattel. I) (Voice) Multi-monitors.
• **Utopia** (Mattel. I) Protect your citizens.
Conquest of the World (Odyssey. O) Diplomacy or Warfare?
Quest for the Rings (Odyssey. O) Boardgame/video adventure.
The Great Wall Street Fortune Hunt (Odyssey. O) Boardgame/videogame.
War Of Nerves (Odyssey. O)
USCF Chess (Mattel. I)
Haunted House (Atari. 2) Find a magic urn.
Riddle of the Sphinx (Imagic. 2) Complex treasure hunt.
Raiders of the Lost Ark (Atari. 2) My hero!
E.T. (Atari. 2) Go home.
Nim (Atari. 2)
Cryptologic (Odyssey. O) Much like *Hangman.*
Codebreaker (Atari. 2)
Flag Capture (Atari. 2)

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MACMILLAN

RIGHTS

Continued from page 32.

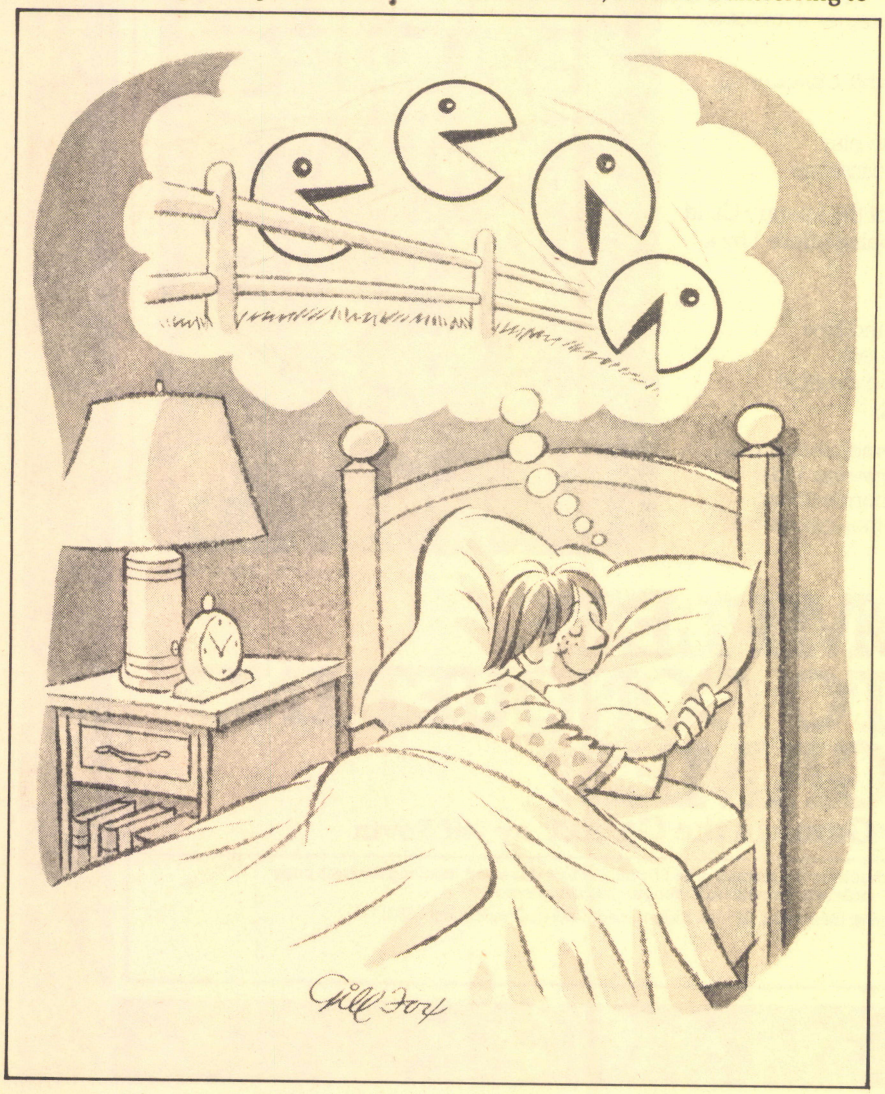
blems of children who may be prone to addictive behavior by getting them "hooked" on game playing and inducing them to spend money which they cannot afford.

It is my further conclusion that the commercial operation of such games tends to attract disreputable older persons who associate with the children playing the games, with the resulting negative effect on the well-being of the children, and that the creating of such "hang outs" has a deleterious effect on surrounding businesses and residences.

In case you were wondering, these sweeping assessments were purportedly based on the officer's having spent "a very considerable time at locations where pinball machines, electronic games, and other coin-activated devices were kept for commercial use."

There is "expert" opinion to the contrary, of course. For example, the trial court in the same Massachusetts case heard from a former high school principal with a doctorate in human behavior studies who had made a systematic investigation into the social effects of videogaming. He concluded that videogames are not addicting, nor are they linked with increased truancy, loitering, or vandalism; also, that there is actually a *negative* correlation between arcade gaming and the abuse of drugs or alcohol (after all, intoxication both drains one's supply of quarters and impairs the reflexes needed to play videogames well).

Unfortunately, the diversity of views on the adverse effects (if any) of videogaming has worked to the detriment of those who dispute the legality of statutes that outlaw or severely restrict the commercial use of videogames. First, zoning regulations and other local ordinances are initially presumed to be valid by most courts, in effect transferring to the challenging party the burden of proving that the regulation is arbitrary or unreasonable. Consequently, if "reasonable" people can differ on the impact of electronic games (meaning, if a court is faced with conflicting testimony by "experts"), then the case against an ordinance aimed at coin-operated videogames is undone almost from the start.



Second, a judge who identifies a First Amendment right affected by a contested ordinance must then determine whether the government's regulatory interest justifies the constriction on expressive conduct allegedly produced by the ordinance. (There's an additional wrinkle—were a city or county to try and regulate the *content* of particular expression, the government's action would, in theory, be presumptively at odds with the First Amendment. The sort of regulations we're considering here, however, are "content neutral.")

Given the current uncertainty over the social aspects of videogaming, any court could be excused (almost) for wishing to avoid a messy judicial balancing act, weighing ephemeral "interests" of the parties, by simply not recognizing any constitutional dimension in the case at bar and, thereafter, relying on the presumption of validity to exonerate the ordinance.

This may explain in part why, as a legal proposition, the idea that videogaming is a form of expression subject to First Amendment protection has met so hostile a reception from the judiciary. By my count, no fewer than six courts, state and federal, have addressed the First Amendment question since 1981, and only two (including the Illinois state court I mentioned earlier) have found such protection.

In what has become the most widely cited decision refusing to recognize a First Amendment refuge from overzealous regulators for videogames, a federal judge in New York sustained a New York City ordinance that effectively requires anyone wishing to operate more than four coin-activated electronic games in a single establishment to scale mountains of bureaucratic red tape. "The impact of the City's regulatory scheme is clear to anyone who takes a walk down any commer-

cial block," the judge declared. "Small establishments with up to four videogames are omnipresent, while only a few establishments containing more than four are to be seen."

Nevertheless, the judge concluded, "before entertainment is accorded First Amendment protection there must be some element of information or some idea being communicated." And a videogame, said the judge, "like a pinball game, a game of chess, or a game of baseball, is pure entertainment *with no informational content.*" (My emphasis.)

Therefore, since videogames are devoid of "information," they communicate nothing; ergo, no "speech" and (presto!) no First Amendment problem. Case closed.

Never mind that the Supreme Court, just two years ago, found sufficient expressive content in the cavorting of an "exotic dancer" employed by a dirty book emporium in New Jersey to justify overturning a prohibitive city ordinance because it violated a protected freedom of speech. (There's the answer to my riddle, by the way. I guess the lesson for game manufacturers is to highlight naked dancers in their videogames whenever possible.)

Never mind that the judge's analogy between videogames and certain other forms of entertainment completely overlooks the fact that modern videogames, unlike pinball and baseball, are characterized by increasingly sophisticated story lines that are functionally and artistically equivalent to the format of a novel or theatrical drama, both safeguarded under the First Amendment. If it is possible to distinguish videogames by the tales they tell—*Zaxxon* (war story), *Donkey Kong* (slapstick comedy), *Frenzy* (post-holocaust science fiction thriller)—can the same be said of pinball machines?

There is, I submit, a qualitative difference between plot, be it that of *E.T.* the movie or *E.T.* the videogame, and a set of rules governing conduct at the gaming table or on the playing field. Videogames (at least those worthy of First Amendment protection) have *both* plot and rules; a baseball game has only rules.

But set aside analogies, if you prefer, and look at basic principles. Those courts adopting the viewpoint of the New York district court judge (and, as I've said, they are the majority up to now) seem to have forgotten that the precept of free speech contained in the First Amendment covers more than just the exchange of opinions and perspectives that we, as a society, have decided is critical to representative government. Beyond intellectual dialogue, the protection of the First Amendment extends, as the Supreme Court has stated, to expression conveying "not only ideas capable of relatively precise, detached explication, but otherwise inexpressible emotions as well."

Can there be any doubt that videogames have, as a medium, galvanized the national psyche and altered the way we perceive ourselves and the world? (Witness the startling imagery dished up in the movies *Tron* and *War Games.*) If videogames do not embody expression conveying "otherwise inexpressible emotions," whence comes their power to compel and mesmerize, a power which the regulators, at least, have implicitly acknowledged?

If I sound like I'm on a soapbox, there is a reason. Do we all remember the municipal ordinance in Massachusetts banning coin-operated videogames? On June 13, the Supreme Judicial Court of Massachusetts, the state's highest court, upheld the regulation, in part because (according to the court) there is no First Amendment "speech" inherent in videogames. Videogames, the court stated, are nothing more than "high technology pinball machines," and any expression involved in their use is "incidental" and unprotected. As supportive authority, the New York district court decision was invoked.

As the song says, you don't have to be a weatherman to know which way the wind is blowing.

The plaintiffs in the Massachusetts case have the option of petitioning the U.S. Supreme Court for a final review of the videogame ban. Whether a petition will be filed, and whether the High Court will decide to hear the appeal if a petition is filed, is not known at this writing.

But unless the Supreme Court intervenes at some point and sets things straight, the game, as far as the First Amendment goes, may already be over.

ROBOT TANK

Continued from page 26.

neigh unexhaustable, so do not be afraid to keep pumping those rounds out (save of course when your cannon is disabled). If your opponent manages to squeeze off a shot before you do, aim for the approaching projectile, and blast it. Or, if you have just managed to zero in on the other tank, shoot at that instead. For when the tank is immolated, its missile vanishes. Also, your explosives are guided missiles, and will—to some degree—swerve when you move the bombsight.

One final warning . . . it is impossible to run away from enemy tanks, as you can in Atari's arcade tank game, *Battle Zone.* You, therefore, must battle each and every one of the enemy that you encounter. Often this might seem to be an impossible task, as you will have to do so while you are missing two or three of your defenses. Still, you must, for the future (if any) of the world is riding with you.

Comments

Robot Tank is a home version tank game that lives up to the arcade standard set by *Battle Zone;* it is most decidedly not a knock off. *Robot Tank* stands very much on its own. Its point-of-view screen and variety of combat situations make *Robot Tank* one of the most engrossing games on the market.

To be sure, *Robot Tank* does borrow from *Battle Zone.* But both games being point-of-view tank games, each goes off in vastly different areas. The various monitor functions and different weather conditions in *Robot Tank* make for captivating gameplay. The lack of scenery, save for the mountains in the background, is more than made up for by the stark reality of the plains. Also, the use of color, especially in the destruction of enemy tanks, enhances the game.

The only complaint that can be lodged is that there are no home bases to repair crippled tanks. Still, had there been such bases, it might have diminished the challenge of going up against a killer tank blind, with slow turret control, and a cantankerous cannon.

That's the tanks you get for trying to save the country.

THE RISING SUN HAS LANDED

Spokesmen for the computer companies speak confidently, dismissively, of the entry of Japanese firms into the American computer market. Quality is all-important; Quality will be market-supported, they say, and the sheer number and variety of products will not affect an individual company's fate.

But as manufacturers privately peer over their shoulders, consumers can look ahead and perhaps see evidence that prices will remain stable while the computers become ever more capable.

Two relatively recent releases from Japanese firms are the Panasonic JR-300 and several models from NEC Home Electronics.

NEC's "entry level" machine is the PC-6000. It contains 16K ROM, 16K RAM (both expandable to 32K with an optional cartridge), a version of Microsoft BASIC, and a seventy-one key keyboard with five function keys which dictate ten special functions. Peripherals include cassette tape program recorder, mini floppy disk drive, forty character thermal printer, and a variety of monitors to choose from. NEC has stated that more than thirty entertainment packages will be available with the release of the $450 unit.

NEC's PC-8000, billed as Japan's most popular microcomputer, has many similar features to the 6000, but includes a disk drive and color monitor. The Z80A 'equivalent' microprocessor provides access to CP/M software. Resident in the computer is N-BASIC, a powerful version of the language developed by Microsoft.

Panasonic's JR-200 has 32K RAM and 16K ROM; it can generate eight colors simultaneously and three simultaneous tones in five octaves. The JR-200 has built in BASIC, ports for Atari compatible joysticks, cassette program recorder, and printer. Panasonic's own recorder will load and save programs at a fast 2400 BAUD. The unit has some built-in word processing functions. Cassette deck, modem, and five by seven dot matrix printer are available, and a floppy disk drive is promised.

NEC boasts that their PC-8000 series contain features that have been available on separate competitors' products.

Panasonic's keyboard gives the user a tone confirmation when each key is struck correctly

CONFORMITY

Due to the cooperative nature of the relationship between business and government in Japan, that country can make some commonsense arrangements that might be anathema to wildly independent American businesses.

Spectravideo, an American firm, has signed an agreement with Microsoft Inc. and fourteen Japanese companies to develop a standardization of certain hardware elements and, in turn, software. The system of software compatibility, called MSX, is a set of specifications comprised of an advanced version of Microsoft BASIC and these hardware components: the microprocessor and instruction set, IO ports, a video processor, joystick interface and ROM cartridges.

All companies, all computers, bearing the MSX logo will be able to interchange software. The specifications are open to all; any firm interested need only pay a royalty and initial fee. If there is a significant response from American companies, further specifications may have to be developed.

American resistance to Japanese intrusion into a troubled market is only one of the obstacles the MSX system may face. A number of concerns are working on—and certain units already exist—interpretive devices that will translate software from one format to another, which, if widespread, inexpensive and accessible, could put the MSX advantage on an equal footing.

Spectravideo plans to market an adaptor in the fourth quarter for their SV-318 computer so that it will be compatible with the MSX system. Their new computer, the SV-328, will surely have the same.

The SV-328 has 48K ROM, expandable to 96K, and 80K RAM, expandable to 144K. It features built-in extended Microsoft BASIC, built-in CP/M and CP/M plus compatibility, two programs built-in in ROM (a word processor and terminal program), eighty

seven key keyboard, ten functions, three special word processor keys, thirty-four graphic symbols, sixteen colors, eight sound octaves, thirty-two character graphic mode (forty character in text), twenty-four lines in both modes. The unit is compatible with all the company's peripherals, and is list priced at six hundred dollars.

ANY RELATION TO MINDMASTER?

Like a child in a dreary neighborhood (or a computer company with no buyers), many a computergame fanatic finds (s)he has no one to play with. Those with that problem—and those with a modem—may find the solution in GameMaster, a time-sharing computer network.

For a ten dollar fee, and three dollars per hour, an avid gamer can play a variety of games against the computer or against a complete stranger thousands of miles away. GameMaster offers contests for one player, two players, or as many as ten players, simultaneous or saved.

The GameMaster brochure arrives in the form of a map to a creaky old house. Each room of the house represents a game category from which the participant can select a game. The categories include traditionals (backgammon, chess etc.), sports games, arcade action, military strategies, fantasy games, combat, diplomatic exercises, educationals, recipes, online conferencing, and electronic mail and more.

For more information, contact GameMaster, 1723 Howard, Suite 219, Evanston IL 60202.

The long-announced SV-318 has barely hit the market and the SV-328 (above) will shortly (?) follow.

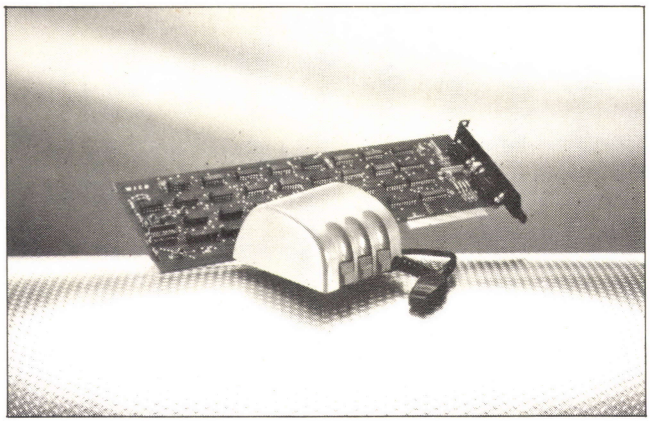
A MOUSE IN YOUR HOUSE

Not the kind that scuttle about in creaky old houses, a mouse is an optically-encoded, mechanical cursor controller that can be used in a variety of ways to quickly edit, select menu choices or move information about without the user ever touching the keyboard. The user slides the mouse on the desktop near the computer and the cursor will duplicate its movement. With the push of a mouse button, commands are realized.

The mouse has been in evidence since the 1960s; it was developed to aid in computer design and manufacturing. The mouse as a user friendly controller for office or home became most widely known in the flurry of publicity surrounding the introduction of Apple's Lisa.

Now Wico Corporation, the makers of an array of computer and videogame peripherals, has developed its Computer Command Mouse for the **Apple II** and **IBM-PC.**

Wico will make available controller cards to serve as hardware interfaces. With the interface cards, the mouse will perform multiple functions written into software programs with mouse control options.



Wico's Mouse will make text corrections and menu selections with ease.

A ZERK IN YOUR ARCADE

Broderbund Software is releasing a string of new titles this fall for **Apple II/II+/IIe.**

Gumball was fully described in our June issue. That's the gumball factory quota game in which the player must cope with a multilevel gumball assembly line. The game is assembled with the customary Broderbund wit.

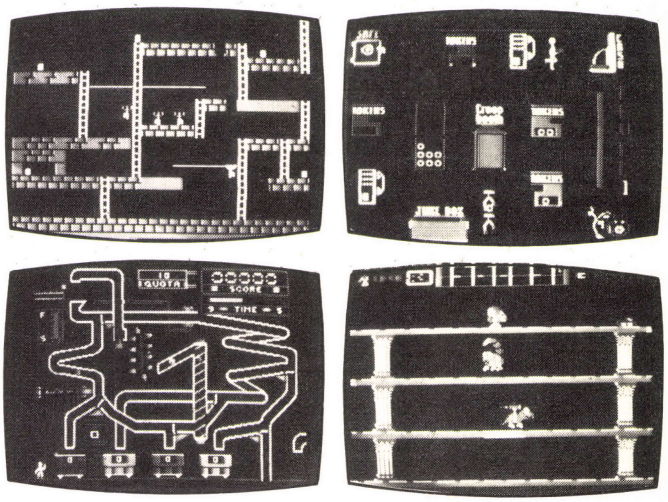
Spare Change is another comical computergame. The player is the owner of an arcade in cahoots with Ozzie and Zeke Zerk. You want to make money; they want to go home. You deposit tokens in your new supermachine; they steal the tokens and deposit them in their piggybanks. More wrinkles and nonsense follow, including cartoon displays and inept disco dancing. 48K memory minimum required.

No more serious, but no less challenging, is *Drol.* The player controls a spaceman in search of two lost children in a magnificent sprawling space palace. Overweight monsters, space turkeys, and witchdoctors are but a few of the villains in the piece.

In *Lode Runner,* the player is a Galactic Commando battling the forces of (a Broderbund favorite, apparently) the Bungeling Empire. The game contains 150 game screens which the player runs, jumps and drills through. In addition, the player can design and save his/her own game screens and bring them to life with the game's Game Generator capacity. For the Apple II

only.

Serf's up in *Questron,* a fantasy adventure game. The evil sorcerer Mantor is tormenting the people of the peaceful kingdom of Questron with his army of evil monsters. But, according to prophecy, a lowly serf shall rise and destroy Mantor. The player takes that serf from his/her humble beginnings through castles, villages, catacombs, torture chambers, gambling halls and battlefields to the ultimate confrontation with Mantor.



Lode Runner *(top left)*, Spare Change, Gumball *and* Drol.

OZZIE OZONE AND THE DUDES

Broderbund is but one company that is actively producing software for the **Commodore** computers. Following is a random roundup of Commodorian developments.

For the **Vic 20:**

Broderbund has adapted the lustrous *AE, Serpentine* and *Sky Blazer,* all reviewed, in previous incarnations, favorably in VCI. New from that company is *Seafox,* a submarine game.

From CBS Electronics: *K-Star Patrol* (a space battle game starring the dreaded Intergalactic Leech) and *K-Razy Antics*), a multiple level maze chase with an ant motif).

Sirius Software has developed no less than nine titles for the Vic 20: *Fast Eddie* (five screen treasure hunt with sneakers as the adversaries), *Snake Byte* (twenty eight levels as the player guides a hungry snake dodging Perilous Purple Plums), *Turmoil* (space battle), *Final Orbit* (last stand against the earth-invading Maladroids), *Plasmania* (inside the body, destroy that blood clot), *Repton* (complex multi-controlled battle in space), *Spider City* (dual screen maze game), *Squish 'Em* (climb the building, avoid objects and monsters), *Type Attack* (thirty nine level typing tutorial which features an alien attack scenario).

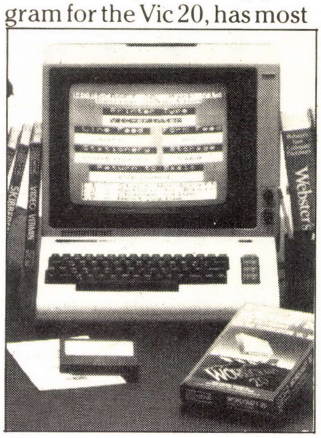
From the graphics-mad Sierra On-Line: *Threshold* (twenty four waves of aliens), *Lunar Leeper* (educational space rescue), *Crossfire* (save your city from aliens), and *Cannonball Blitz* (multi-level colonial warfare).

From Thorn EMI: *War Games* (save the world, a computer's gone berzerk), *Submarine Commander, River Rescue* (overhead view of jungle flight), and *Vic Music Composer* (type a musical score, listen and save. Three voices, controllable tempo and volume).

From United Microware Industries: *Motormania* (overhead view driving game), *Pennant Drive* (managerial point of view baseball game with statistics playing a major role; create your own all-star team from real Hall of Famers), *Grand Master* (chess with a twist: the player can ask the computer/opponent for suggestions), *Word Feud* (educational), *Fuego* (grid/maze game), *Alice* (based on Carroll's *Alice in Wonderland), Renaisance* (strategy similar to *Othello* and *Reversi*), *Super Amok* (*Berzerk*-style bamblaster game), and *Arachnoid* (*Centipede*-like run, scoot and shoot).

From Romox: *Princess and Frog.* As a frog, the player sets out on a quest for a princess' lips past alligators and snakes, hoping to ascend to humanhood.

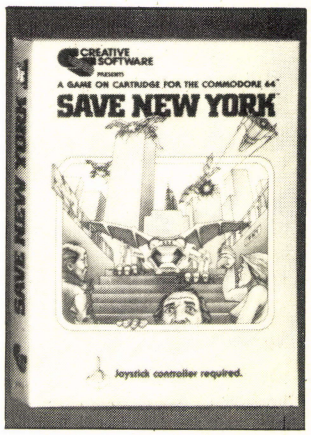
The Wordcraft 20, a new $150 word processing program for the Vic 20, has most of the functions of the finest word processors. It plugs into the cartridge slot, and up to forty pages of text can be stored on disk or tape.

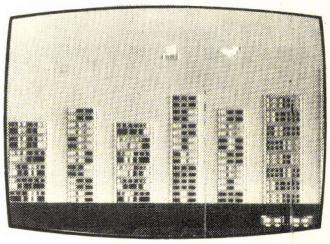


The Wordcraft 20, a much-needed Vic 20 utility.

And for the **Commodore 64:**

Save New York! from Creative Software. Mutants have infested the subways, buildings and sewers. New Yorkers haven't noticed, so it's up to you to do battle.





From Broderbund, adaptations of *Choplifter, Serpentine, Seafox,* and *David's Midnight Magic* (pinball).

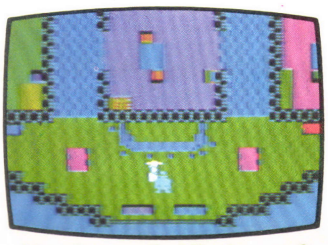
From Sirius: *Ozzie Ozone, Space Cadet* (streak and shoot game; shoot the dudes!), *Shadow Scorcher* (pilot your air car through a busy landscape and avoid alien salvos), *Wayout* (twenty six 3D maze games with memory, a compass and fireflies to help the player and a Cleptangle to bedevil him/her), *Fast Eddie, Repton, Snake Byte, Squish 'Em* and *Turmoil.*

THE DIGITAL DR. J

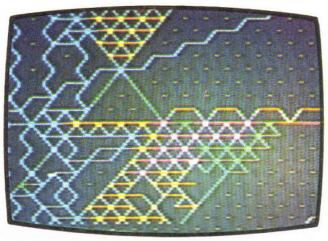
In this era of the package, of the license, when the marketing of the product has become more important than the product itself, it is refreshing to see a company like Activision succeed. Activision has created a non-antagonistic relationship with its software designers; Activision management has allowed their designers to create their own games at their own pace (keeping the peculiar hours artists tend to cherish) and to put their signature on the finished product.

Now a new computer software design firm has been born with those principles foremost in its agenda: Electronic Artists. The president of the company, Trip Hawkins, is a twenty nine year old former marketing executive for Apple. Hawkins is aware that the next generations of computers will make the current ones look like worry beads; he is aware that programming for such high capability machines will still be difficult and time-consuming. Thus, he is investing in software tool technologies such as the compiler, which essentially translates codes that are easy for the artists to use into a computer's own assembly language.

Hawkins has also hired producers, who work much in the way that producers ideally do in the motion picture or recording businesses: the producers seek out and sign top software designers to create games on a royalty basis (artists may be different, but not so different that they ignore monetary incentives). The producers work closely with the artists on all phases of a game's development.



Murder on the Zinderneuf



Worms?

This company is unique in one other, crucial aspect: its software designers can choose to work out of their homes, anywhere in the country.

Electronic Artists plans to introduce as many as twenty five titles this year with hundreds more to follow in the years to come. For now, all games play on the **Atari** or **Apple** computers. The first games include:

M.U.L.E. by Ozark Softscape. A monopoly-type game in space, the player directs his/her super-strong robotic mule to build an empire out of a frontier planet and to keep ahead of the competition. For the Apple.

Archon by Free Fall Associates. A combination board game and arcade game, *Archon* depicts the battle between the forces of light and darkness. Weapons include lightning bolts, dragon fire, swords, and deadly eye beams. For Atari.

The Pinball Construction Set by Bill Budge. From a set of pinball parts—bumpers, paddles and balls—the user, employing a joystick, designs a pinball game that (s)he can then play. Design options include a graphics painting and editing system, a wiring kit, and certain physical properties which the user defines: timing, pacing, and gravity factors. For the Atari and Apple computers.

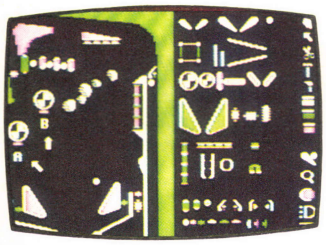
Worms? by David S. Maynard, combines art, music and strategy for one to four players. On a complex matrix, colored worms slink from one dot to the next, creating music and a colored trail as they go. Players train their worms and must constantly update the information throughout the game. For the Atari.

Hard Hat Mack, by Mathew Alexander and Michael Abbot, is a witty strategy game involving the construction business. The designers are high school seniors who relied on summer job experience as the inspiration for this game. For the Apple.

Other new titles include *Murder on the Zinderneuf, Axis Assassin,* and *The Last Gladiator.*

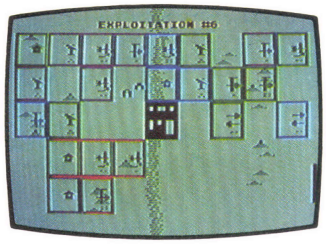
Electronic Artists has signed Gahan Wilson, whose grisly cartoons have graced (or dis-graced) the pages of *Playboy,* as a consultant on future games. And they have signed Larry Bird of the Boston Celtics and Julius Erving of the Philadelphia 76'ers. These two superb professionals are allowing their courtly moves to be computerized, and a one-on-one high resolution graphics basketball game is being created from the information.

The game will take into account such factors as fatigue, hot streaks of shooting, and varying shooting percentages from various areas of the court. In addition, Dr. J's patented leap-and-dunk from the foul line will remain in his repertoir. Larry Bird won't have that particular move, but he will have the better outside shooting percentage. A game we'd like to see.

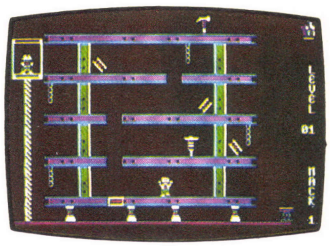


Pinball Construction Set

Archon



M.U.L.E.



Hard Hat Mack

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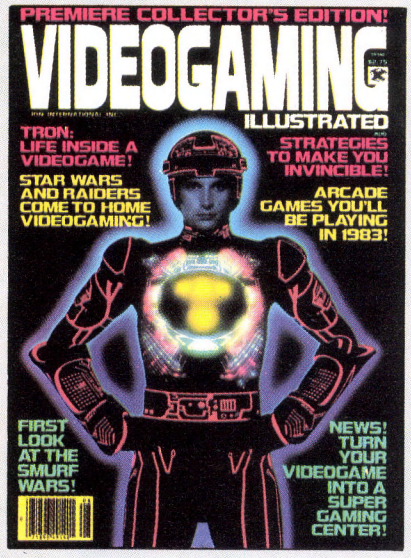
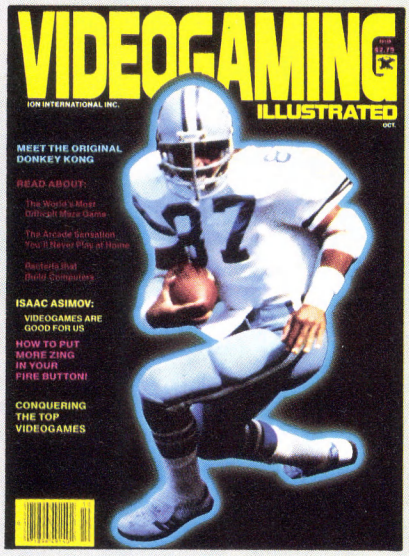


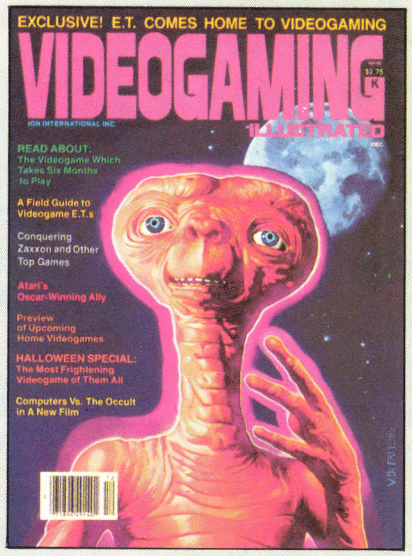
ISSUE #1

- *Tron:* how the movie was made, with seven pages of breathtaking color photos.
- The big arcade flops of 1982.
- Jim Levy, the president of Activision, throws hearts and daggers at the industry.
- How to hook your videogame system to your stereo amplifier for window-rattling sound effects.



ISSUE #2

- A gridiron superstar looks at football videogames, and tells why he opened an arcade.
- Science and science fiction author Isaac Asimov talks about why videogames are good for us.
- Conquering *Space Cavern, Pick Axe Pete, Space Battle, Donkey Kong,* and *Turbo.*
- How computers work.



ISSUE #3

- A look at all the home videogames featuring extraterrestrials.
- What happens when computers are used to serve the occult?
- An interview with an Oscar winning actor who has an unusual relationship with Atari.
- How videogames are developed and manufactured, from concept to program.

ISSUE #4

- The story of the *Star Wars* saga, on film and in videogames, including a penetrating interview with the man who plays Darth Vader.
- An interview with radio's Don Imus, the most irreverent figure in the history of the medium — and avowed hater of videogaming.
- Conquering *Cosmic Creeps, Atlantis, Kangaroo,* and *Dig-Dug.*

ISSUE #5

- A profile of Stan Lee, the creator of Spider-Man.
- Conquering Tron, Spider-Man, Q*Bert, and Slither.
- A space shuttle astronaut discusses computers in space . . . and videogames on earth.
- A lawyer explains how to protect your videogame program.

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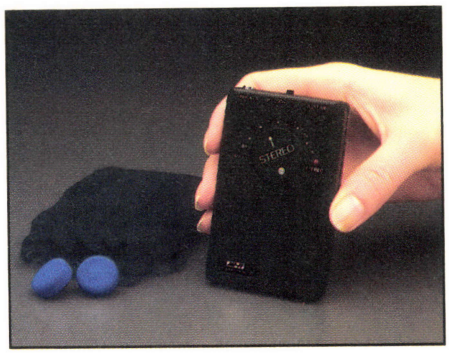

Listen to it while you're jogging, exercising or bicycling in the park.

Listen to it while you're gardening, working on a project or doing household chores — the MI-FI SHIRT POCKET STEREO is *never* slung over your shoulder so it *can't ever* get in the way!

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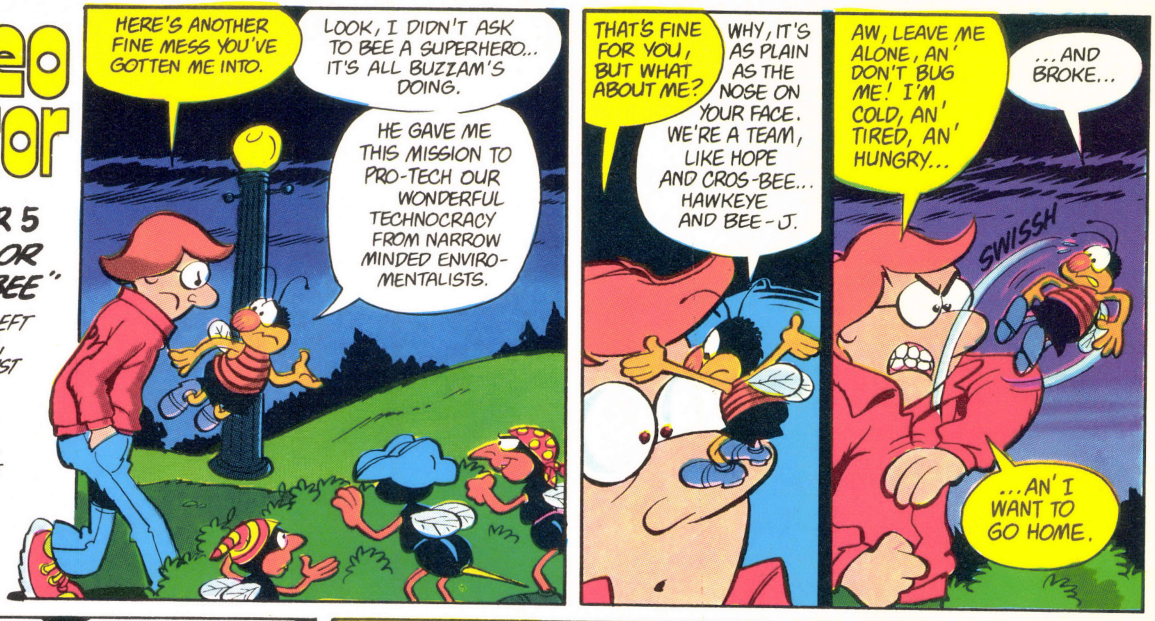
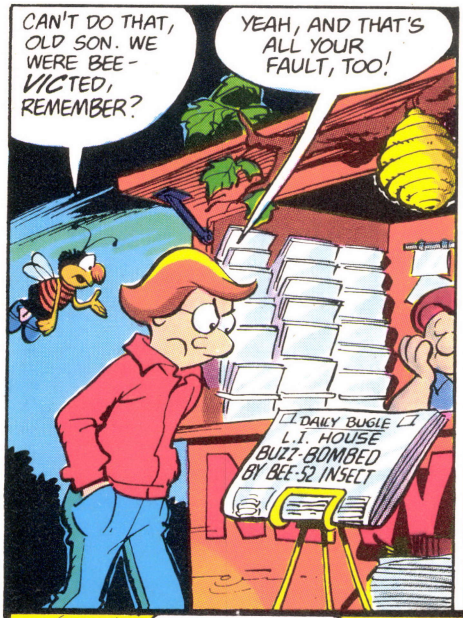
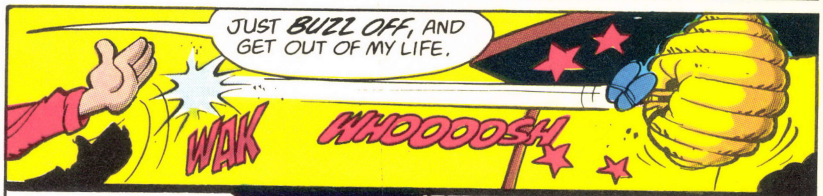
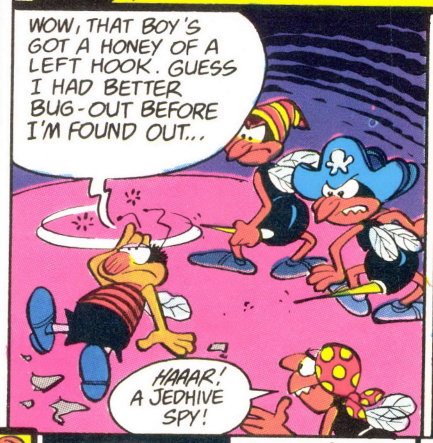
CHAPTER 5
"TO BEE, OR NOT TO BEE"

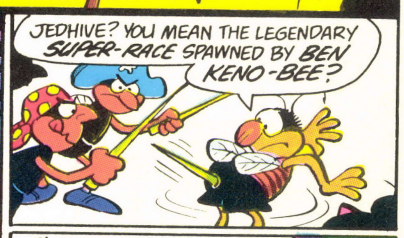
WHEN WE LEFT OUR HEROES, THEY HAD JUST NARROWLY ESCAPED DEATH AND DISMEMBERMENT AT THE HANDS OF GOODY'S MOM...

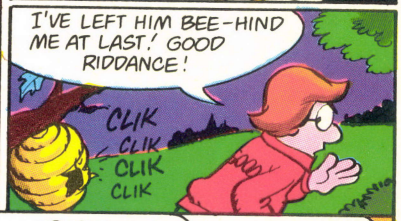


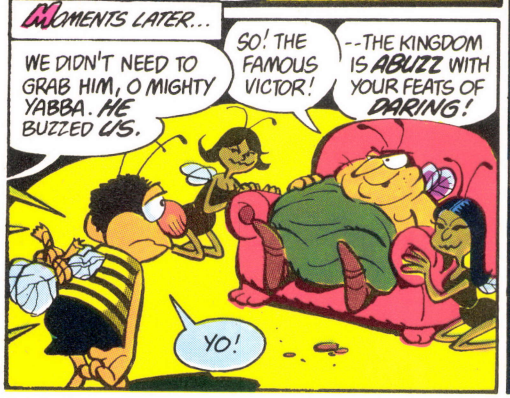












WILL OUR HERO BE EATEN? WHERE IS GOODY, AND CAN HE R.C.A. VICTOR (Rescue Captive Apoidean)? NEXT TIME IN: "THE EMPIRE STRIKES BUG"

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